The Builder.

No. CCCLXX.

SATURDAY, MARCH 9, 1850.

OUR old friend, of whom we spoke a fortnight ago * (let us call him Senex, for shortness), has been kept in London ever since, in consequence, as he says, of one of two references which brought him to town being before a barrister instead of an architect. He is of too kindly a disposition to hate anything much, but *certes* he has little love for barristers as a class, who, he maintains, in their professional capacity, uniformly insult an architect or a surveyor when they get him under cross-examination in the witness-box. Without going the whole way with our friend in this opinion, we must admit its correctness in the case of several individual members of the bar, who seem never to have arrived at a knowledge of the fact, that an architect is a gentleman. If any of them should chance to see this remark, we hope it may not be lost upon them.

"As to this present reference," said Senex, "we have had three times the number of meetings that were necessary, because the referee knows less than nothing of the matters in question. When I say less than nothing, I mean that the few notions he has upon it are all erroneous, so that they have to be unlearned. If disputants on questions involving knowledge of construction, prices, architectural jurisprudence, &c., would refer their disputes *before* going into court instead of afterwards, as they are usually led to do, they would not be forced to name a barrister for referee, and would moreover save costs."

Better, still, if they avoid both trial *and* reference, eh? Law is an expensive affair, even to the winner, and should be the last resource. The position of an arbitrator is a most honourable one: that architects do not oftener fill it is partly their own fault.

"I hear that the architect of the French Opera, Mons. Debret, is dead. Do you know anything of his history?"

"The March number of the *Revue des Beaux Arts, Tribune des Artistes,* published under the auspices of the *Société Libre des Beaux Arts,* in Paris, contains a brief notice of Mons. Debret, written by Mons. Petit, an architect. Debret was an artist of considerable talent, a favourite pupil of Percier and Fontaine, and a member of the French Institute, but, not advancing with the times, allowed younger men to pass him. His life was chequered: he had some triumphs and more sorrows. In 1820, when the removal of the opera was determined on, the honour of constructing the new theatre was conferred on Debret, and the result proved most satisfactory: so much so, that the commission to build the theatre *des Nouveautés,* was really forced upon him. Here, however, from some cause unexplained, he was so unsuccessful, that this theatre, now called the *Vaudeville,* has been altered twenty times without remedying all its defects. From this period his troubles commenced. Some years later he was displaced from the conduct of the works at the cathedral of St. Denis, and was succeeded by M. Violllet-Leduc; and then his son, who had evinced much talent, and of whom he was very fond, died. In 1847 the Government determined on the restoration of the Opera House, and to the great disappointment of Debret, who naturally expected to have the conduct of the works, intrusted them to M. Rohault de Fleury, and as a consolation to Debret, appointed the latter a member of the Council of Civil Buildings, which added 240*l.* per annum to his income, but prevented him from undertaking any architectural work. After the revolution of February, however, he was struck off the list, on the plea of economy. He was then more than seventy, and this was the finishing blow. He left Paris, and at St. Cloud arranged for himself a modest residence, where he hoped yet to spend a few years in calm retirement,—but it was not to be. He died, his biographer says, on his work, like a Spartan on his shield!"

"Ah," sighed our friend, "we architects (I feel myself scarcely worthy of the noble title) have difficulties to contend against, but none greater than those which arise from the ignorance of the public. The jealous feeling which architects are said to evince is scarcely to be wondered at when it is remembered how much they suffer from the ignorant presumption of those on whom they must nevertheless depend. I met with some remarks on this head in an article on your journal in the *Globe* newspaper the other day, which seemed to me so true that I cut them out. Here they are:—'The masters of other arts,' says the writer, 'are at least able to command their materials, and realize their conceptions. A painter will scarcely fail to produce, himself, for mere lack of canvass and colours, or even a sculptor for want of a block of marble to warm into life. But every evidence of an architect's genius must for ever rest buried in his portfolio, if he cannot find liberal private or public patronage to supply him with space, stone, and funds. His talents must first find appreciation before he can show them, in any outward shape. Now, this requires a degree of discernment which, perhaps, is not brought to the inspection of architectural drawings by one person in ten thousand; yet the nine thousand nine hundred and ninety-nine are no whit less confident in their preferences than the one fit judge. Hence it happens that designs for buildings (where competition is admitted at all) are much more likely to be selected for some flagrant enormity, than any appropriate beauty. Our recipe for a rising architect, who would bear off the prize from his competitors, would be something of this sort:—Take your portico from Rome—take your tower, if you will, from Babel—never mind where you put them, or whether they fit, as regards any of the purposes, or any of the other dimensions, of the edifice,—only take care they are bold and big enough—sufficiently projected in light and shade to strike the dullest eye. If your design has merit, the one *Enormity* will bribe recognition of it; if not, the same splendid disproportion will, in all likelihood, atone for its absence.'"

It ought to be the endeavour of architects to remove this ignorance, and to assist, to the extent of their ability, all who are labouring in that work. Who but an architect knows the difficulties under which his works are produced,—the numerous causes of results beyond his control, for which, nevertheless, he is blamed? Mr. Welby Pugin, in a pamphlet called "Some Remarks on Articles which have recently appeared in the *Rambler* relative to Ecclesiastical Architecture and Decoration," has a strong passage bearing on this, but, like most of us, thinks few have been so unfortunate in that respect as himself. "I have passed my life," he writes, "in thinking of fine things, studying fine things, designing fine things, and realizing very poor ones. I have never had the chance of producing a single fine ecclesiastical building, except my own church, where I am both paymaster and architect, but everything else, either for want of adequate funds or injudicious interference and control, or some other contingency, is more or less a failure. In the process of canonization there is always a devil's advocate, and I am satisfied that there is the same personage in the erection of every church, who contrives to mar the result. Sometimes he appears in the character of a furious committee-man, sometimes as a prejudiced ecclesiastic, sometimes in the form of a liberal benefactor, sometimes as a screw, but there he is in some character or other, thrusting in his claw and spoiling the job. St. George's (Lambeth) was spoilt by the very instructions laid down by the committee, that it was to hold 3,000 people on the floor, at a limited price; in consequence height, proportion, everything was sacrificed to meet these conditions. Nottingham was spoilt by the style being restricted to lancet—a period well suited to a Cistercian abbey in a secluded vale, but very unsuitable for the centre of a crowded town. If fine tracery windows admitting a due proportion of light had been introduced, it would have been a grand and satisfactory building; but this it was impossible to attain, and even the width of the lights was regulated, so there was nothing left but to make the best of it under the circumstances, and the result has been what might be expected: the church is too dark, and *I am blamed for it.* Kirkman was spoilt through several hundred pounds being reduced on the original estimate: to effect this, which was a great sum in proportion to the entire cost, the area of the church was contracted, the walls lowered, tower and spire reduced, the thickness of walls diminished, and stone arches omitted. When completed, the building was found to be too small for the congregation, its proportions stunted, and I believe the rev. author of this mistake has never ceased to deplore it from the time it was impossible to remedy it. Both the collegiate chapels I have erected have been spoilt for want of a sufficient sum expended in the first instance, on *thick* walls and *stout buttresses,* omissions which no subsequent amount of enrichment or expenditure can redeem."

"And yet," interposed Senex, "Pugin is thought a wonderfully lucky fellow by most architects, and they sigh for such opportunities as he has had, to show what they are made of."

But let us read a little further. "I could show," he continues, "were it not tedious, that it is everywhere the same. In our days a certain sum is named as the ultimatum of cost, without due consideration whether it is adequate for the description or dimensions of the church required, and this is the standard by which style, proportion, material, and detail is to be regulated. At first the unfortunate architect, not having the full fear of the tremendous figures impressed on his mind, ventures to indulge in an extensive plan, solid walls, and fine proportions; he thinks of glorious examples of ancient work, and rejoices in moulded arches, and stone jambs, and window reveals; he may even be audacious enough to imagine a clerestory, and fine lofty chancel,—but the day of reckoning comes, the quantities are taken out, and the estimate commences.

* See p. 85, *ante.*

One by one he finds himself obliged to abandon the best details of his design: still he clings to *proportions*,—but even these must be sacrificed; off goes the clerestory, down go the walls; try it again; still 500*l.* too much. Brick arches plastered, and omit labels, will just do it; it comes out to the amount, a wreck to be sure, and anything but a worthy building; but it can be done for the stipulated sum, and that is the only point considered. This is no exaggerated picture. I can truly say that I have been compelled to commit absolute suicide with every building in which I have been engaged, and I have good proof that they are little better than ghosts of what they were designed; indeed, had I not been permitted by the providence of God to have raised the church of St. Augustine, I must have appeared as a man whose principles and works were strangely at variance."

It is an architect's province to be always striving for something better than he can get, and to conquer difficulties. A teacher has always to find fault; when he can be fully satisfied he is no longer wanted. Architecture is a harassing and responsible profession. If the circumstances under which architects' works are produced, and the thought, struggle, and anxiety they cost, were well understood and properly estimated by the public, the professors of our art would receive more consideration than is now usually accorded them.

PROMENADES IN PARIS.

IN one's promenades through a great and ancient city, how much there is to see both novel and curious. On the one hand we have incessant change and activity, on the other the very rust of antiquity and inertness: side by side the new and the old, the modern and the ancient, are struggling for pre-eminence, for preference, for existence. Each has its admirers, its supporters. But it is particularly in the cities of the continent that we have the most interesting specimens of the buildings of ancient times, maintaining by their solidity of construction, as much as by the beauty and picturesque character of their decoration, their position against the encroachments of modern improvement and innovation. There the go-ahead principle of the Anglo-Saxon race has scarcely begun to make an impression, or rouse from their mediæval slumber the "paternally" governed populations. They start at length as the engineer's whistle resounds in their ears and the heavy *convoi* rushes swiftly past them, and seem to awake to a new existence and to new ideas at the wonders of steam and of electricity.

With these new visions spring up a thousand interests of progress and of fortune, and along with them the spirit of innovation and amelioration. It is curious to watch their effect, and to note with what rapidity new quarters and towns arise; how old places are changed, renovated, enlarged; and how the new, the modern world of progress in art, is holding out a hand of renovation and restoration to save the old from destruction or oblivion!

We have been struck with this fact more than once in our promenades about Paris. It is a great pleasure now and then, on an idle day, to set out in search of the curious, the ancient, and the picturesque, through some of those quarters of the town which abound in narrow streets and antiquated hotels. A few streets still remain untouched by the unrespecting hand of improvement. The oil lamp still swings across from house to house, glaring reddishly at night, only enough to make the darkness "more visible;" the rude pavement, with its dirty gutter running down the middle, seems never to have been touched for centuries; "bornes," or edge-stones, still line the sides, sole protection of the pedestrian; while the dirty-looking hotels, with their pompous portals and roomy court-yards, attract the attention of the stranger, not merely by the style of the architecture, but by the contrast of light and neatness they most frequently present within to the narrow gloominess of the street.

As in London, the fashionable quarter of Paris has been moving westerly for several centuries. In the reigns of Henry IV. and Louis XIII., the Marais, the Place Royale, the Faubourg St. Antoine, the Isle Saint Louis, still contained within their limits the residences of the aristocracy. But a movement had already commenced towards the "westward," as the Tuilleries became more decidedly the abode of royalty; and in the following reign the superb Faubourg of St. Germain sprung up. If, therefore, you would wish to form an idea of the grandeur of former times, you can trace it in the French capital with remarkable distinctness. Solidity of construction has guaranteed from the fickleness of change the works of former days, and the slowness to admit of innovations, and the facility to accommodate themselves to circumstances, which characterize the French, account, perhaps, in some measure, for the existence of whole quarters, ill adapted, one would think, to modern ideas and habits.

But the mental and material revolution is fast producing its fruits now on every side. Not content with rearing new and magnificent quarters to the actual sovereign of France—the middle class,—the spirit of change now threatens older districts. In the splendid hotels of the ancient aristocracy—theatres of so many intrigues, conspiracies, and crimes—inexhaustible sources for the novelist and romance writer—industry at the present day has her throne. From the vault to the roof they are filled with the productions of commerce, of manufactures, of art. Under the painted and gilded ceilings are displayed the wares of the tradesman. The boudoir is the counting-house of the honest merchant: we might name many whose destination has thus been changed by the fickleness of time. Few, however, would present any interest to an English reader; and of these, the Hotel Lambert, on the Island of St. Louis; the Hotel St. Aignan, Rue St. Avoye; and the Hotel Sully, in the Rue St. Antoine, are among the most conspicuous for their historical recollections, as for their superiority in point of architectural beauty.

The terrible Faubourg St. Antoine—more terrible in imagination than in reality—once the residence of the proudest aristocracy, is now the residence of the industrious democracy. The whole quarter, from the Boulevard du Temple to the river, and from the Hotel de Ville to the Bastile, the scene of some of the worst events of revolution, is of the highest interest. We may traverse it in any direction, and find abundant materials for excitement and curiosity. The abode of the great mass of the working people of this metropolis is not, like that in most great towns, paltry in character, wretched in appearance, and devoid of interest; on the contrary, despite its many narrow streets, and uninviting aspect, here and there, it is generally picturesque and highly attractive to the curious observer.

Inhabited as it is principally by the working class, it became naturally the stronghold of the extreme party, and some damage was done during the conflict. Few houses in the Rue St. Antoine escaped. In spite of the reparations the damage is still to be traced; the fronts of the houses, particularly near the corners of streets, being grazed and peppered by shot. One house was battered down on the Place of the Bastile, at the corner of the Rue de la Rocquette, and others received their quantum of cannon shot. At this moment some houses are in course of demolition on the Quai Saint-Paul, in order to widen and raise the pavement, and one of them standing more in advance than the others, received, in June, 1848, no less than twenty-three cannon shots, besides several discharges *à mitraille!*

This quay is one of many improvements going on in the Quarter, and has been urged forward in order to render the approach to the Lyons Railway as easy, at an early period, as possible. The quays of Paris are unrivalled, and there is little more to be done to make them uniform in width and grandeur. Amongst the changes they have necessitated, has been the demolition of the house formerly inhabited by Abelard and Heloïse on the Quay Napoleon, No. 9, at the corner of the Rue des Chautres. The new building, like the majority of those constructed of late years, is a great ornament to the quarter. It has two entrances, over each of which are medallions of the two lovers, and between the doors is a slab of white marble, with an inscription in letters of gold, "Ancienne habitation d' Heloïse et d' Abeillard, 1118; reconstruite en 1849."

Another encroachment of the spirit of progress here has led to a rectification of an error respecting the house in which Molière was born. Among the houses to be demolished, on account of the enlargement or rather the throwing into one market of all the markets congregated between the Halle au Blé and the Rue St. Denis, was this one which all the friends of literature were about to regret because of its historical *souvenirs*. It was M. Lenoir, conservator of French monuments, who first noticed this house, and on the 13th Brumaire, An VIII. (4th November, 1799) put up an inscription on the front, "Ici Molière est né en 1620." The edifice, No. 5, Rue de la Tonnellerie, has been since almost rebuilt, and decorated with a bust of the celebrated writer, with the words, "C'est dans cette maison qu'est né, en 1620, Baptiste Poquelin de Molière." Far from deploring the loss of this pretended monument, it is perhaps rather desirable that it should be destroyed, inasmuch as it consecrates an error. In fact, the Act of Baptism of Molière, found among the registers of the parish of Saint-Eustache, as also the archives of the hospitals, prove that the great man was born on Saturday, 15th January, 1622, at the corner of the Rue des Vieilles-Etuves and the Rue St. Honoré, near the Croix du Trahoir.

The Rue de la Tonnellerie, now about to be demolished, is one of the curiosities of Paris. In the twelfth century it was a road containing here and there a few miserable dwellings, occupied by Jews. It was closed in 1202, and obtained its name from the number of coopers who lived in it. It was afterwards called Rue de la Toilières, in 1547; but there are documents of the seventeenth century in which it is styled "Grands Pilliers de la Halle,"—no doubt from the circumstance of an arcade running the whole length of it, supported on massive square pillars. Not far from this spot, by-the-by, is the Rue de la Ferronnerie, in which Henry the Fourth was assassinated, south of the Marché des Innocents. It was then a very narrow street; and by stepping on one of the "bornes," Ravaillac was able to reach and strike the great man who wished "that every peasant should have a fowl in the pot for dinner on Sundays."

Strolling from the markets to the quai, we arrive at the Hotel de Ville, around which a number of houses are being taken down, in order completely to isolate it. And a little to the west is a mass of ancient building, intersected by some of the narrowest streets in the town, a considerable portion of which is about to be removed, not for mere purposes of health, although that is one consideration, but also while forming an open space, to build a caserne for the protection of the Hotel de Ville, which is embarrassed by the number of troops lodged within its precincts.

From thence, we cross the river to observe the reparations going on in the tower in which Marie Antoinette was confined at the Conciergerie. The almost complete restoration of Notre Dame attracts our attention. The ground in front has been lowered, and instead of descending into the cathedral, we now have to ascend three or four steps into it—in early times there were eleven steps,—an improvement of no small importance after all. The towers and the beautiful front are almost entirely renovated, and in approaching them, we are now infinitely more struck with their grandeur and beauty: the richly ornamented portals look higher and nobler since the levelling of the ground. To the south of the cathedral, on the spot where the Archbishop's palace formerly stood, has been built a beautiful sacristy, according, in Gothic character, with the edifice; and in front of it is a noble quay leading to the public promenade, once the Archbishop's garden, and at present covered with temporary barracks for soldiers. At no time has this interesting building been more complete, or presented an appearance more thoroughly in accordance with its re-

ligious character. It is the most curious, as it is the most ancient Gothic edifice in Paris.

Gratified with our visit, we retrace our steps to the Palais de Justice, to examine its incomparably elegant Sainte-Chapelle. It is a veritable *chef-d'œuvre* of Gothic art—admiration of the artists of all countries. For years it has been partially concealed by scaffoldings, wooden sheds, and houses in a state of demolition, so that it was almost impossible to visit it or get a view of it. Each year considerable sums have been devoted to its restoration, and a hope has been entertained that during the alterations and enlargements which have been carried on at the Palais de Justice means would be adopted to isolate this beautiful chapel, and disengage it entirely from the miserable buildings which disfigured it; or at any rate, that no new construction would be permitted near it.

One would have supposed that common sense and artistic taste would have suggested a respect for the elegant building which it is pretended to restore; but this is not the case. Far from leaving it exposed to public admiration, the space around it is being gradually inclosed by buildings attached to the Palais de Justice; and, what is worse, these plain modern constructions, well enough in themselves, are actually brought in contact with the chapel itself; disfiguring it by the contrast of their heaviness with its elegance and lightness. It is really too bad. For 600 years the Sainte-Chapelle has existed almost untouched; and now, when pretending to restore it, it is about to be buried amidst a mass of heavy masonry.

Victor Hugo, as far back as 1832, in his Notre Dame de Paris, raised a cry of complaint at the vandalisms committed by unworthy architects upon the remains of the middle ages, and not without success. There has been a party, and we might say there is a party, who carry their democratic principles so far, as to think that the destruction of everything that can recall to mind the slavery of feudalism is a worthy and essential object of pursuit; and a society still exists, rich and prosperous, founded upon such principles, among whose members are many individuals, drawn into it no doubt from a love of gain, whom we should be disposed to imagine would be the last to be connected with such a body: a better taste is prevailing, however. Notre Dame is restored; the Sainte Chapelle, with its beautiful stained-glass windows, is renovated; St. Germain l'Auxerrois is not taken down, but repaired; the tower of St. Jacques de la Boucherie still remains standing, and is even threatened with restoration also; the admirable Chapel of Vincennes has been spared; the ancient Royal Abbey of St. Germain-des-Prés, built in 558, and magnificent in interior decoration, has escaped everything but reparation. In short, the appeals of the learned and the influence of religion have brought back a respect for the ancient, and where no absolute necessity existed for destruction, for the accommodation of a railway terminus, or the construction of a new street, the relics of former taste and skill have been renovated and protected.

Having gratified our curiosity on the Ile de la Cité, and excited at the same time a taste for Gothic restorations, we determined to cross the river to visit the church of St. Germain. On our way we traversed the Place de Grève, formerly the chosen spot for public executions, and stopped to admire for a while a beautiful little turret which stands at the upper corner of a house on the north-west side, and is almost the only remains of the style of building which characterized the "Place" in olden time. We were more than half inclined, as we admired its light and airy appearance beside the plain and formal façades of modern houses, to regret the loss of this architectural ornament of other days. It must soon disappear, with the picturesque edifices of which it formed so essential a part, to make room for an enlargement of the Place, in unison with the extent and grandeur of the modernized Hotel de Ville.

In passing round this latter building, we came among a mass of houses in course of demolition, which we had the curiosity to stop and examine minutely. They were ancient, and we were disposed to admire and to be lenient. But the aspect of their interior arrangements, now exposed to view, the lowness of the rooms, the wretched, uncouth, and irregular character of the oaken staircases, the miserable narrow entrances and low passages, ill-ventilated, ill-arranged, badly lighted, incommodious,—damped the ardour of admiration which the thought of airy-looking turrets and picturesque gable-ends, and all the bold, intricate, yet rich and delicate ornamentations of the Gothic, the Norman, or the Byzantine, for an hour or two had created in our mind.

We passed on to St. Gervais, to view the paintings being executed in one of the chapels. It is that in which is the baptismal font. The pillars and the windows are covered with arabesques and ornaments, most delicately cut; the ceiling is rich and florid in sculpture; and the key-stone, as well as the mouldings in the nave of the church, are gilded. Painted glass windows have replaced those by Pinaigrier,—of which remained but little,—and for colour and drawing surpass the works of the ancients. These, with the architectural wonder of the little chapel of the Virgin, apparently suspended from the ceiling, make this church one of the most attractive. It has at the same time a fine front, but which, like that of St. Eustache, is in no way suited to the style of the rest of the building.

From St. Gervais we again crossed the river by the Pont d'Arcole, passed the spot where the house of Abelard and Heloise once stood, viewed again the imposing front of Notre Dame, and then traversing the new bridge and the new quays, dived into the midst of that antiquated and irregular mass of streets and buildings which mask the sides of the hill, crowned by the Pantheon. This is the Mount St. Geneviève, celebrated for its beautiful church, and for a convent once existing there, of which only a tower remains, remnant of antiquity peculiarly precious to the connoisseur.

We were in search of a modern curiosity, but the ancient prevailed for a moment in our mind over the new, and we were tempted to enter St. Etienne du Mont, to view its beautiful screen or gallery—for it has the character of both,—and the tomb of the Patroness Saint of Paris. The tomb was black as age and the smoke of farthing lights, ever burning from century to century, could make it. We passed on, praising the religious zeal, and pitying the superstition, which has grown, in the shadow of time, out of the traditions of savagery and ignorance, and proceeded to the new Library of Saint Geneviève. This has been built to the north of the Pantheon, at the back of an old edifice temporarily occupied by the library, and is now almost finished. As the scaffolding is removed, we can at present judge a little of its effect. It is a curiosity of its kind, being quite original in design, and not to be compared to any other building that we are acquainted with. The façade is simple—we would say plain—having little ornament and less variety, and is relieved almost solely by the multitude of names of celebrated authors, of all times and countries, which are cut in tablets let into the walls on every side, and nearly covering them. Among these figure, in golden array, our Shakspeares, and Goldsmiths, and Newtons,—men who belong to France for the simple reason that they belong by their genius to humanity. Above and below these tablets are festoons of flowers, cut elegantly in the stonework, running the whole length of the edifice: beyond this nothing can exceed the severe plainness and originality of the building.

We might find fault—who cannot? who has not? But so long as there is no glaring impropriety of style, so long as proportion is not absolutely outraged, so long as common sense is not wounded by any extravagance or ridiculous confusion, we feel that we ought to be pleased at the effort. The edifice is peculiar, is original—and we like it for that. It will not please everybody, how can it?—when one is enamoured with the Gothic, another with the Grecian, a third with the Roman or Italian, and a fourth, perhaps, with the Arabian, the Egyptian, the Hindoo, or the Chinese! There are beauties in each: let each have perfect liberty of choice; but having the *liberty* to choose, let him not find fault *tyrannically* with the choice, the whims, or loves of others. We would rather see a little more originality than that interminable system of copying, which, by enforcing by strict rule, and limiting within certain bounds, what is boundless and ever varying, drags genius always in the mire of imitation. The ardour of the scholar should not be damped or cramped by being made to regard the works of former men as complete, as efforts beyond his reach, subjects for his admiration and worship; but he should be taught to regard them as stepping-stones to endless expansion of mind. Literature, the arts, the sciences, politics, morality, ay and religion, have suffered by this superstitious and selfish limitation of the natural liberty of the human mind. It is time to be tolerant in all things, in order to be more perfect, more exact, and more capable.

Before terminating our present promenade, let us remark, that a commission has just been formed to examine into the complaint respecting the hiding of the Sainte Chapelle behind a mass of stone edifices. As more room is required for the necessary additions to the Palais de Justice, and no other space presents itself, it is probable that a compromise will be entered into, and that, as suggested, some of the new buildings will not be carried higher than one story.

ROYAL INSTITUTE OF ARCHITECTS.

THE ordinary meeting of the 4th inst. was numerously attended, to listen to a dissertation by the Rev. Richard Burgess, on the Mole of Hadrian, now the Castel S. Angelo, at Rome, one of a valuable and interesting series on the architectural remains of the Eternal City, which have been laid before the Institute by that gentleman. Before the paper was read, Mons. Guy (architecte de la ville) of Caen, and Herr Heideloff, of Nuremberg, were elected honorary and corresponding members; and Mr. Henry Clutton, previously an associate, was elected a fellow.

The honorary secretary announced the death of Mons. Debret, of Paris, an honorary member of the Institute, and of whom a brief notice will be found in the present number of our journal.

Mr. Tite exhibited a memorandum of an account for business done by the late Sir John Soane for Mr. Beckford, of Fonthill, with the receipt annexed. The whole is in the handwriting of Sir John, and a copy will be found in another part of our journal.

Mr. Tite further said, he had been requested by some of the younger members of the profession to make an inquiry concerning the building for the '51 Exposition. It was very satisfactory to find Mr. Donaldson, their honorary secretary, upon the committee for arranging matters connected with that building. Mr. Cockerell was also upon that Committee, and an impression prevailed that let who would forward suggestions, Messrs. Donaldson and Cockerell were to carry out the building.

Mr. Donaldson said he was not sure that he ought to reply there; but he would venture to say that no course in respect of the suggestions for the plan that would be received had been determined on, and that all ideas found valuable would be fully acknowledged. It was to be a temporary building only.

The Chairman (Mr. Smirke) was not certain as to the wisdom of offering no pecuniary reward for designs; he thought the overflowings of the flesh pots might have fallen for the advantage of architects.

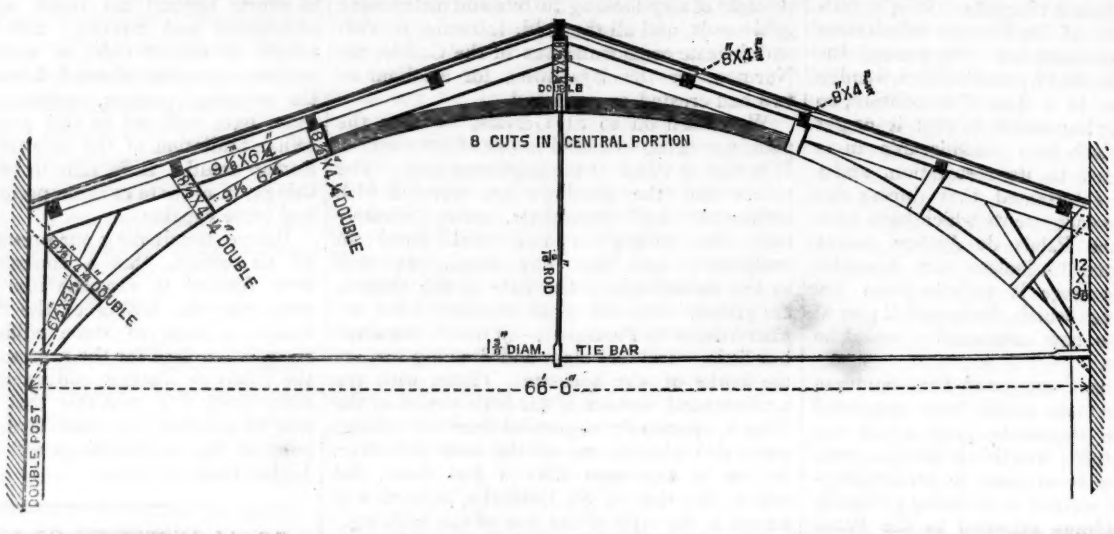
Mr. Burgess then proceeded to read the paper of the evening, which was characterized by the humour, intelligence, and learning of the Rev. gentleman's other contributions. Several of these will be found in other volumes of THE BUILDER, and we shall probably add to them the present essay in full. The paper was very fully illustrated, including some excellent sketches by Mr. Gruner, of the more modern decorations of the castle of St. Angelo.

In the course of an interesting conversation which followed, the honorary secretary said he had urged in letters to the secretary of the French Academy and others, the importance of obtaining an investigation of the present state of the monument and its decorations, but without good result at present.

MICHELANGELO'S "LAST JUDGMENT" is said to be on its way to London from Leghorn, in a steamer for Liverpool, whence it is to be forwarded under Government seals without being opened by the Customs' authorities.

ROOF OVER MERCHANDISE SHED OF THE ROUEN RAILWAY, PARIS.

[SINCE REPLACED BY A WROUGHT-IRON ROOF.]—M. CLAPERON, ENGINEER.



ROOF OVER MERCHANDISE SHED, ROUEN RAILWAY.

THIS roof was erected to cover the portion of the station in the Rue S. Lazare, Paris, devoted to the light goods traffic of the Rouen Railway: it was made independent of the walls, because the St. Germain Company, to whom the whole station belonged, even then contemplated the covering the whole station with a wrought-iron roof,—since done.

The details are sufficiently shown on the drawing; but we may remark, that the plan adopted of running cuts down the centre part of the arched beam is a clumsy substitute for the mode of building up such beams of bent plank. The beam is not so strong; and the whole part of it takes a very irregular curvature. The clipping pieces of the arch and of the principal rafters looked heavy; perhaps stirrups and filling in pieces would have been preferable. The pitch of this roof was too low; the slates blew off very much. The principals were 16 feet apart.

MEDIÆVAL BRICK BUILDINGS IN GERMANY.

THE earliest buildings in which brick appears as the prevailing material date their commencement in the latter part of the twelfth century. But it is not till the end of the thirteenth century that we find any examples of importance, and the style was fully developed during the fourteenth and down to the middle of the fifteenth century.

The earliest examples of this style are, as might be expected, ecclesiastical structures, and the prevailing character of these is simplicity and massiveness. The form of the plan is at first the cross, the choir having a polygonal apse with the aisle continued round it, and sometimes also small chapels spreading beyond; the floor of the choir is considerably raised, and a crypt formed under it; but the transepts were sometimes omitted, retaining the same arrangement of the choir. The best examples of this early style are to be found in the churches of Rive, Odensee, Ringstädt, Roskilde, on Zeeland and the adjoining islands.

In these examples we find the semi-arch, small windows, and many other features of the Romanesque buildings, with which they are nearly coeval, but probably a little later. But by far the greater number of existing examples belong to a later period, as already mentioned, and these exhibit more peculiar features. The plan now presents nave and aisles only; the choir still terminates polygonally, and the aisle is sometimes continued round it; but frequently the aisles are also closed at the east end by a small apsis, and in this case the choir is continued eastward beyond the aisles: the choir is always marked by being raised a few steps. The space between the wide projecting buttresses is sometimes occupied by small chapels, both round the east end and at the sides of the aisles. The towers are, I think, invariably placed at the west end only, and there is most commonly only one, which is embedded in the body of the church, so that the west façade is unbroken, and the tower only shows itself above the roof: in this arrangement buttresses would not have added to the apparent stability. The aisles are of equal height with the nave, or at least the vaulting springs from the same line. The roof is generally in one span over nave and aisles, rendering it a very important feature externally from its necessarily great height: the usual covering is copper. The windows are of narrow proportions, and without transoms; the tracery, where not of stone, is of a very simple and even rude character, though there are exceptions. The doorways are generally small, but deeply recessed, with rich mouldings; porches are not common, but I am able to exhibit one example from the Dom Lübeck. The form of the arches is generally about the equilateral, the pier arches more depressed. The piers are mostly of simple form, as circular or octagonal, with four attached vaulting shafts; but there are examples of a more elaborate composition. The vaulting is generally the simplest form of cross vault, without any wall or ridge ribs: in each compartment, between the transverse ribs, the vault rises domically, so that there can hardly be said to be any ridge at all, as the vertical section through the centre of the vaulting would present somewhat the appearance of a series of irregular-shaped domes; and, probably with a view to lighten the construction, the centre is left as an open eye, round which the moulding of the ribs is continued. In some instances the brickwork of the interior has been simply pointed, and left without any plastering or colouring except in the vaulting; this treatment, though it produces rather a gloomy effect, is perhaps preferable to the indiscriminate whitewash.

Of the exterior, the most striking features are the towers, though usually single, and placed at the centre of the west front. They are of large dimensions, both on plan and in elevation, but of exceedingly simple outline, without buttresses, and with scarcely any ornament but the bands of sunk tracery which divide the different stories. The openings are small, too much so apparently to let out the sound of the bells; some of the smaller of these are therefore occasionally found on the outside, in a kind of balcony. The towers are most commonly square, up to the commencement of the spire, which is octagonal, and constructed of wood covered with copper or lead: the transition is made by gables on the four sides of the tower, but there are some examples where the upper part of the tower itself is octagonal.

The spire is generally more than half the whole height, without any attempt at ornament, and terminates in a simple vane. The form is very taper, and is elegant from its simplicity,—essentially different from the heavy spires of the Romanesque churches on the Rhine, which in construction they resemble.

As the roof is generally continuous over both the nave and choir, the division is marked externally by a kind of lantern, with a small spire, placed on the ridge of the roof; and this is called a roof-rider, a term very expressive in its position, though the saddle is none of the easiest. * * *

The small town of Tangermünde, on the Elbe, contains some very good examples—the Conventual Church and St. Stephen's: in the latter much of the moulded work is in stone. A short distance from this town there is a very interesting example of the early period of the brick style, in the church at Jerichow (before 1200), in which the semi-circular arch is used throughout; there is also a crypt; the cloisters which still remain show this to have been a conventual church. Not far from Tangermünde, in another direction, is situated the ancient capital of the Mark Brandenburg, Stenthal, where there are several fine churches of the brick style (the Dom, St. Mary's, St. James's, and St. Peter's), all on a very large scale. At Brandenburg the Dom affords another example of the earlier period, at least in part. The church of St. Katharine (1401), partakes externally rather of the civil than ecclesiastical character; the façade has a stepped gable. I will only mention further the church of St. Nicolas, at Stralsund (begun 1311), and that of St. Mary, at Stargard, in Pomerania, both of which are stated to be particularly fine examples of the style.

We will now turn to the civil architecture of the brick style, examples of which do not occur till about the latter part of the fourteenth century; and they are generally of a much more elaborate character, with greater subdivision of parts, and more profuse decoration. Among these buildings the town halls, or senate houses, form an important class, but they will hardly admit of any general description; further, the gate towers and other fortifications are very worthy of notice; and, lastly, the private houses, though these do not offer any very great variety. * * *

The treatment of the ornamental parts in this style is peculiar, and well adapted to the material in which they are executed. There is one feature in particular which deserves attention; I mean the introduction of a white plastered ground to relieve the forms of tracery, &c., put over it. This relief by colour is rendered necessary by the dark hue of the material, owing to which the shadow of small projections would not give sufficient relief.

In the early examples of the brick style, the more elaborate parts, including the tracery of the windows and other moulded work, were executed in stone. Horizontal bands of stone were also occasionally introduced, and they have a good effect in tying together the different parts of the composition, besides their value in a constructive point of view. But in the later examples from the end of the fourteenth century, stone is entirely dispensed with, and we find even such parts as crockets and finials executed in brick. The use of dark brown or black glazed bricks was also common during the later period. The character of the mouldings varies of course somewhat in the different periods, being simpler in the earlier, and more elaborately subdivided in the later: delicacy of profile can hardly be expected from

the nature of the material. Moulded bricks were also used to make up general forms, such as circular piers, the inner side of circular turrets, &c.

There are a few points in the construction of the buildings we have been examining which ought not to be passed over. There is usually a granite plinth carried all round the churches, and the towers are faced with the same several feet up. The absence of buttresses to the towers rendered it necessary to increase the thickness of the walls, which we find is very considerable; notwithstanding which they mostly incline from the upright, and it is remarkable that this occurs most frequently towards the S.W. While speaking of the mortar-joints, I should mention that they are invariably very wide (from ½ in. to ¾ in. or even more)—the mortar itself is extremely hard, and the lime used was, for the district we are considering, principally supplied from Segeberg, in Holstein.

The construction of the vaulting, I think, claims particular attention. In the first place, a light material was prepared in bricks, moulded of a wedge form. The ribs seem to have been first constructed, independently, as a skeleton, and between them the spandrils were filled in with the light bricks, apparently without the use of centring, as each spandril is considerably arched up to enable it to support its own or any superincumbent weight; thus the vaulting rests entirely on the ribs, which are not tailed into it. It is a single brick in thickness, about 6 in., and is backed up only a very short distance above the springing, so that the form is very distinctly seen on the upper surface, where it presents a very remarkable appearance. The bond used throughout is the Flemish, or cross-bond, as it is there called: the arches are always built in half-brick rings.

CHARLES FOWLER, Jun.

DISTRICT SURVEYORS' FEES.

A DECISION has been just now obtained on a question concerning district surveyors' fees, which ought to be generally made known. For reasons which some will, we hope, appreciate, we avoid naming the district, and give simply the facts.

Mr. Gerry, builder, had done certain works at a villa residence (first-rate) belonging to Mr. Mordan, namely,—added a bow window to the drawing-room, a smaller bow to the library, and a small portico at the side of the house; a conservatory adjoining and communicating with the house was brought forward 2 feet; and a detached stable was raised 3 feet, and a small chaise-house formed adjoining it.

The works were all executed at the same time and under one notice.

The district surveyor sent the following list of charges:—

June, 1849.

Fees of front bow addition, rear bow addition, and also of portico addition on west flank of dwelling-house as aforesaid, at 1*l.* 15s. each respectively* ..	£5	5	0
Fee of detached building (chaise-house) .	1	15	0
Fee of addition and alteration of detached stable building of second class and fourth rate	0	10	0
Fee of ditto of conservatory of ditto	0	10	0
	£8	0	0

Payment was refused, and the district surveyor applied to the referees to confirm the correctness of the account. The referees awarded as follows:—

"First.—With regard to the first item of the said account, namely, the sum of 5*l.* 5s., for additions to the said dwelling-house,—that inasmuch as the works in respect of which the said sum is claimed were all executed at the same time, upon the same building, such works form only *one* addition to or alteration of such building, and that *one* fee only is payable to the said district surveyor in respect thereof—namely, the sum of 1*l.* 15s., being the fee provided by schedule L of the said Act first herein mentioned, for an alteration made to a building of the first rate.

Secondly.—With regard to the second item of the said account, namely, the sum of 1*l.* 15s., for the building of 'a detached building containing a chaise-house,' &c.,—that such chaise-house is not, and is not to be rated as, a distinct building separately from the stable with which it is connected, but forms one building with such stable, and that the fee payable to the said district surveyor for the supervision of the erection of such chaise-house is the sum of 10s., and no more, being the fee provided by schedule L of the said Act first herein mentioned, for an addition or alteration made to a building of the fourth rate, and not containing more than two stories.

Thirdly.—With regard to the third item of the said account, namely, the sum of 10s., for 'an addition or alteration of a detached stable building,'—that inasmuch as the works in respect of which such fee has been claimed were executed upon the said stable building at the same time that the said chaise-house was added thereto, the whole forming one detached building, no separate fee is payable to the said district surveyor in respect of the raising of the said detached building.

Fourthly.—With regard to the fourth item of the said account, namely, the sum of 10s., for an addition to or alteration of the said conservatory,—that inasmuch as such conservatory is an appendage to the said dwelling-house, and inasmuch as the works upon the said conservatory, in respect of which such fee has been claimed, were executed at the same time as the aforesaid addition to or alteration of the said dwelling-house, such works formed part of the said addition or alteration, and no separate fee is payable to the said district surveyor in respect thereof."

The costs (2*l.* 9s.) to be paid by the district surveyor.

This award was dated Dec. 17, 1849. The registrar, considering it objectionable in point of law, referred it to the Commissioners of Works for their decision, and the commissioners, a few days ago, directed him to affix the seal.

* These fees are described by the surveyor as "charged in accordance with decision of Commissioners of Works *in re* Whittell and Badger, D.S.," at which we must take an opportunity to look.

SOANE'S CHARGES.

PROFESSIONAL REMUNERATION.

THE following is a copy of the bill delivered by Sir John (then Mr.) Soane to Mr. Beckford, exhibited by Mr. Tite at the Institute on Monday evening last:—

"William Beckford, Esq.,

To John Soane.

1787.			
April.—A journey to Fonthill (time and expenses).....	£8	8	0
Taking plans of the situation for the intended gallery, making fair drawings of a design for forming the gallery, and introducing the prints of the Vatican	12	12	0
Making a fair drawing of a design for finishing the niche heads in the tapestry-room; making fair drawings of the chimney-pieces for the tapestry-room and S. E. parlour ..	3	3	0
Dec. 3.—A journey to Fonthill (time and expenses).....	8	8	0
1788.			
Jan. — Making two designs for state beds, and fair drawings of the same ..	10	10	0
Wilmot (plaisterer) £36 14 4			
Bankes (sculptor)..... 93 3 6			
Nelson (mason)..... 135 5 4			
£265 3 2			
Commission for making the working drawings for the above, attending the execution, and measuring the work, &c., 5 per cent. on 265*l.*.....	13	5	0
	£56	6	0
Paid Thomas Bankes, as per bill.....	93	3	6
Paid James Nelson, ditto.....	135	5	4
	£284	14	10

December 2nd, 1788.

"Received of William Beckford, Esq., by the hands of Thomas Wildman, Esq., two hundred and eighty-four pounds fourteen shillings and tenpence, in full, for surveying and money paid for chimney-pieces, as per bill delivered: I say in full of all demands.

£284 14 10.

(Signed) JOHN SOANE."

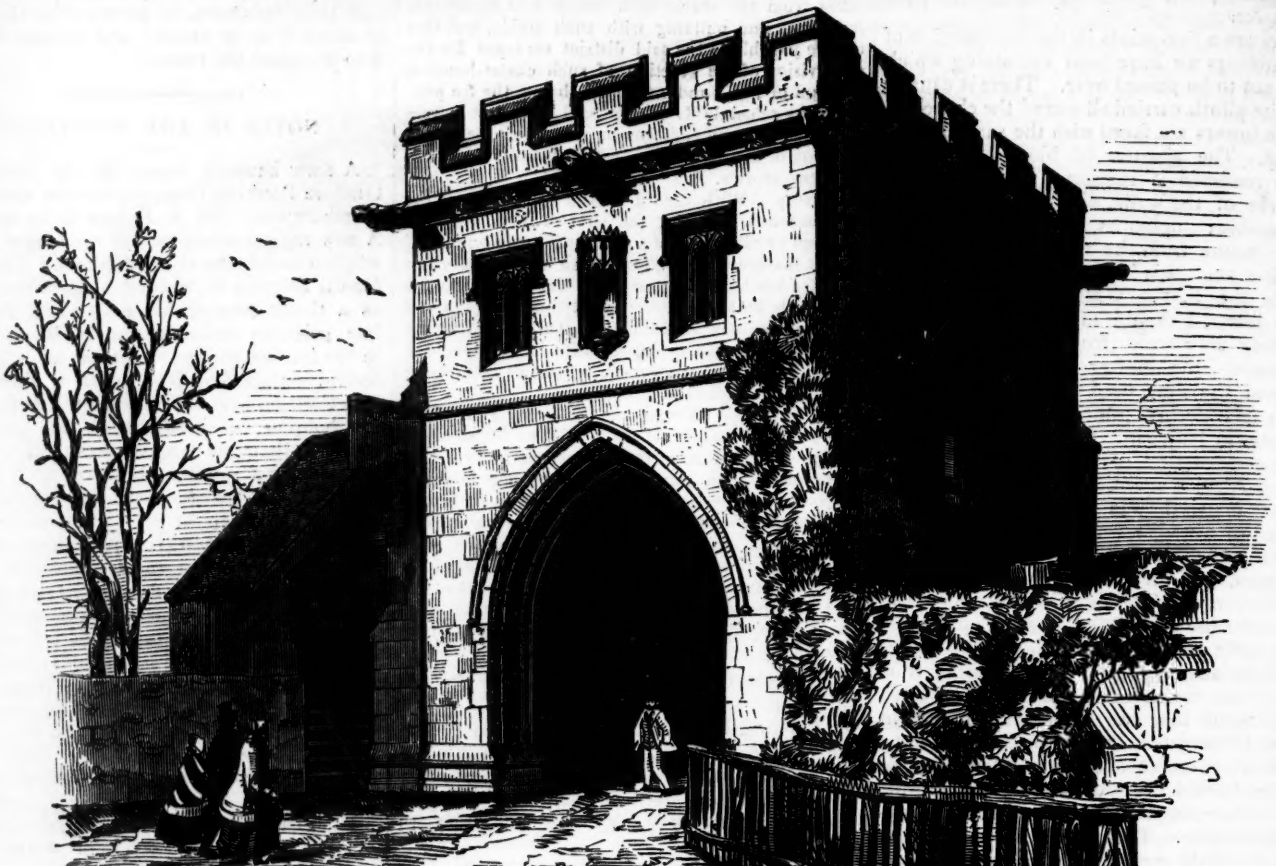
It will be observed that Soane charges in this bill for his time occupied in travelling, a sum for each design, and *then* 5 per cent. commission on the cost of the work,—an indulgence not now usually accorded to architects. Another point noticeable is his having been employed to design the state-beds. This item, when read, caused a laugh, showing (and much it is to be regretted) that architects are now seldom so employed. A laugh would be more legitimately raised against those who do *not* employ a properly qualified person to design their furniture, to accord with the rooms in which it is to stand; and who so fit as he who designed the rooms?

NOTES IN THE PROVINCES.

A NEW banking house for the Northamptonshire Banking Company is now erecting at Northampton. Mr. E. F. Law is the architect. A new ragged school is also erecting at Northampton under the same architect. The funds for the erection of this school have been raised as a thank-offering for deliverance from the late grievous sickness, and is being erected in the locality where the disease made the most fearful ravages.——The trade of Portsmouth and Portsea, says the *Hampshire Independent*, are holding consultations for the purpose of inducing their gas company to submit to the reduction of a solitary sixpence upon the not unreasonable charge of 6s. 6d. per thousand; and it remains to be seen whether the tradesmen of Newport will remain long dormant, under the infliction of ten shillings for an inferior article, whilst the minor town of Cowes can be supplied at a far less amount.——The Plymouth council having called for tenders for cast-iron piping for water supply, upwards of 26 were sent in, varying in price from 6*l.* to 5*l.* per ton. The tender of the Colebrook Dale Company was accepted at 5*l.* 3s. 6d. per ton. ——At a crowded meeting of Baptists in a hayloft at Haverfordwest, on Tuesday week, the beams of the flooring gave way, and precipitated the congregation amongst a collection of cows below. The reverend pastor alighted safely on a cow's back, with a boy on his own, but some of his flock met with rather serious falls; so that there seems to be some sense, after all, in the 'moral' of 'the old jackdaw's' experienced and sagacious advice to 'the young jackdaws,' against 'ever getting up upon the tops of the cows,'—incongruous elevations like these being apt to end in dirty falls, even in the purest and greenest of pastures. ——A water-works company, with a capital of 5,000*l.*, in 500 shares of 10*l.* each, is to be established at Pont-y-pool. The advice of Mr. W. Llewellin, C.E., points to the wells at Gellypistil for the requisite supply of pure water, and plans have been prepared.——The Kidderminster Corn Exchange Committee have reported to the council their recommendation to advertise for tenders for the erection of the building forthwith, and also for the loan of 12,000*l.*, at 4 per cent., for that purpose, if requisite. ——Upwards of 8,000*l.* have been already subscribed for the new public hall at Bradford.——The Whittle Dean Water Company, says the *Gateshead Observer*, have been increasing their charges even 25 per cent., but whether the advance be a judicious one is very questionable.——The inhabitants of Carlisle have, in a very few days, subscribed nearly 600*l.* towards the purchase of a building for the use of their Mechanics' Institute.——The Ordnance Survey of Mid Lothian is to be the next survey undertaken by the corps of Sappers and Miners, who have already commenced at Edinburgh with the previous triangulation of that city, the survey of which is to be laid down on a scale of 5 feet to a mile, the other towns mostly on one of 6 inches to a mile. If we understand rightly, this has been already done by a private speculator.

THE VIADUCT OF THE GREAT NORTHERN RAILWAY at Peterborough, across the river Nene, comprises a bridge of cast-iron, formed by three arches, with a span of 66 feet each, resting on two supports, and sustained by twenty-four fluted pillars fixed by atmospheric pressure. At the north end of the bridge four brick arches will intervene between it and the embankment leading to the station at Sexton Barns; three arches of the same dimensions in the meadow will divide the bridge from the passage over the two railways running at a lower level—the London and North-Western and the Syston and Peterborough lines, which will be supported by twelve columns; and between this passage and the embankment to the south will be erected a series of nine arches, similar to those on the north.

THE ABBEY GATEWAY, TEWKESBURY.



THE ABBEY GATEWAY, TEWKESBURY.

THE abbey gateway at Tewkesbury, represented by the annexed engraving, is supposed to have been erected by Abbot Parker, at the beginning of the fifteenth century. It is the property of Mr. John Martin, the present member for Tewkesbury, by whom it has been restored, under the direction of Mr. Medland, architect.

It was in a ruinous and dilapidated state, entirely roofless, and the walls covered with a luxuriant plantation. A considerable portion of the walls was taken down and rebuilt—the stones being replaced precisely in their former position, and the whole of the stonework thoroughly repaired.

The building has been roofed with wrought timbers in panels, with curved and moulded brackets, supported by stone corbels with carved heads, and shields bearing appropriate devices.

The roof is covered with lead, forming an area, from which a commanding view of the beautiful scenery of the surrounding country can be obtained.

Some further restorations are still in contemplation. The total cost, to the present period, is about 440*l*., which has been liberally expended by Mr. Martin, with the view of preserving this interesting relic. Messrs. Call and Collins, of Tewkesbury, were the builders.

SCULPTURE FOR THE NEW HOUSE OF LORDS.—According to the *Art-Journal*, Gibson, the sculptor, is now occupied in making a design, at Rome, for a national monument for the House of Lords, which affords high promise of beauty. It consists of the statue of her Majesty, supported by two figures—one representing Wisdom, the other Victory. On the pedestal are three bas-reliefs, representing Commerce, Science, and Agriculture, the triple root of Britannia's grandeur.

LOW PRICE OF TIMBER.—At a sale of timber held in Worcester during the past week, twenty-three large elm trees, and sixty-eight prime hearty oak trees, were sold by auction; the former realizing at from 8d. to 11d. per cube foot, and the latter from 1s. 3d. to 2s. 1d.

CLEAR SPACE FOR ST. PAUL'S.

THERE seems to be every reason to believe that one of THE BUILDER's little paper pellets, furthered through the great guns of the newspaper press, and re-aimed by a steady and determined hand, is now about to level the inner space around St. Paul's, demolishing the iron railing which detracts so much from the dignity of its aspect, on the one hand, while creating, on the other, an unnecessary strait in the circulation of life at the core of the city that certainly destroys as completely, in noisy and irreverent squabbles and confusion, all the quiet dignity of its precinct.

Mr. Barber, a common councilman of the vicinity, acting on a suggestion in THE BUILDER—honourably acknowledged and quoted—has had printed, at his own expense, a circular pointing out the nature of the projected improvement, with a lithographed elevation of the building as divested of its ruffle of railing, and provided with a clear and open pavement and a widened street around it, but to be protected still where necessary, only close to the walls, and without derogation to the general effect of the improvement.

At considerable expense of time and trouble also, Mr. Barber obtained a requisition signed by forty-five of the principal firms located in the ward of Castle Baynard, calling a wardmote, which was held on Friday last, when Mr. Barber explained his plan, and called attention to the western part of Westminster Abbey now fully exposed to the admirers of ecclesiastical architecture; to the improvements and alterations near St. Martin's Church, Westminster, effected with the same view; to the Royal Exchange and its noble portico, and to other public buildings. He said, with reference to his plan, that in order to accomplish it, the cost would be very inconsiderable: not a single house would have to be pulled down, and there was not a citizen of London who would be put to the slightest inconvenience by the carrying out of the improvement. He had earnestly invited the speedy attention of the ecclesiastical authorities and the corporation of the city of London to the proposition, and he felt confident that it would be kindly received, because they had to deal with the exigencies of the present time, and not with the circumstances of fifty years back. It had been said that if the present prison-like palisading was removed, all sorts of nuisance would be committed. Now, the fact was, that at the present time many nuisances of an unmentionable character *were* committed there, and this, therefore, instead of being an argument for the retention of the railing, was a convincing one in favour of its removal.

Mr. Pritchard (the high bailiff of Southwark) was of opinion that this improvement was a matter of public necessity, and there was scarcely any one who had not been struck with surprise, now it was pointed out to them, that it had not been done before.

The meeting was addressed by various other gentlemen, and resolutions were passed, one of them to the effect that a petition be presented to the Commissioners of Sewers, praying that court to apply to the proper ecclesiastical authorities for the removal of the wall and iron railings, according to the plan before the meeting, and upon obtaining their consent, to adopt measures for its execution.

Mr. Barber, while responding to a vote of thanks for his exertions, said he fully hoped to see his plan realized by the time that London would be filled with foreigners from every land at the opening of the International Exhibition on 1st of May, 1851.

The proceedings evidently excited great interest, and the Wardmote was most respectably attended by common-councilmen and other citizens.

The city Commission of Sewers have since considered the petition of the Wardmote, and unanimously resolved,—

"That the public convenience would be promoted, and the architectural beauty of the western end of the Cathedral Church of St. Paul much better displayed, if the dwarf wall and railing around the enclosed vacant area of ground in front thereof were removed, and the space paved with flagstones, in manner similar to that at the western end of the Royal Exchange."

A deputation was also at once appointed to wait upon the Archbishop of Canterbury and the Bishop of London on the subject.

BRONZE CANDELABRUM, VENICE.

THIS elaborate candelabrum forms the candlestick for the great Easter candle in the church of the *Salute*, and must certainly be reckoned among the finest works of the kind in Italy. It is remarkable that the artist who executed it is one who is not otherwise known, but he has fortunately recorded his name on this work as Andrea di Alessandro, Brescia. It is probable that he was a pupil of Alessandro Vittoria, who was employed in decorating this church, and from whom, according to the frequent custom, he may have taken the name Alessandro: this would fix the date of the work about the middle of the sixteenth century. The style of it confirms this supposition, on comparison with similar works by Vittoria. The numerous figures introduced into the composition are a mixture of sacred and profane,—the former, though at a small scale, occupying the prominent positions; the latter introduced more decoratively. The total height of the candelabrum is about 9 feet, including the pedestal of black marble on which it is placed: it stands in the usual position on the left-hand side of the high altar. It is, perhaps, hardly necessary to mention that the plan is triangular. C. F.

CONSTRUCTION OF ROADS.

OBJECTIONS TO MACADAMIZED ROADS.

IN the paper on "the Superiority of Macadamized Roads for the Streets of Towns," which was read at the last meeting of the British Association, held at Birmingham,* the arguments deduced, and the deductions drawn therefrom, are of so erroneous a nature, that I desire to offer a few observations in reply to them.

It is my intention before venturing to record the results of my own experience upon the subject, extending over a period of upwards of twenty years, to draw your attention to the opinions of the most eminent practical men who have thoroughly investigated the matter, and whose opinions, as you will observe, are at direct variance with the theory laid down, and endeavoured to be established in the paper in question.

First of all, I will take the opinion of Telford, a man who rose from a very humble rank to the head of his profession, and who earned an European reputation as much from his talents as a road engineer, as from his professional connection with the greater part of the most important engineering works of this country in his day. It is generally admitted that Telford brought the art (if I may so term it) of road making to the highest state of perfection, and the sound principles he advocated, and the rules he laid down, continued to be acted upon with very great advantage, even in the present day, in many parts of the country. In his report of the street pavements of the parish of St. George, Hanover-square, he says, "Sundry modes have been proposed to get rid of the imperfect carriage-way pavement of the metropolis. One of the boldest of these projects has not only been proposed, but actually, to a certain extent, put in practice, by making a total change from a pavement surface to that of small broken stones.

This radical change appearing to me to require all the judgement and experience which can be brought to bear upon it, I have not only exerted myself personally to acquire information, but have submitted the subject to repeated discussions, at sittings of the Civil Engineers' Institution, which were numerously attended by many of the ablest and most experienced engineers and surveyors, not only of the metropolis, but of various parts of the country. The result of these able and very candid discussions, was a unanimous resolution, that a granite pavement, of proper form and depth, laid on a sound bottom, is preferable to any other mode for carriage ways for the metropolis and other large cities, in order to form a body of strength adequate to bear the pressure and shocks of innumerable carriages, many of them conveying several tons.

The chief objections to small broken stones were as follows:—That they cannot resist the pressure caused by a very great intercourse, being liable to be thereby crushed and ground into dust, easily converted into mud; that this hasty and continual destruction and renewal would, in a great city, prove intolerably troublesome and expensive; while the dust in dry weather, and the mud in wet, would greatly incommode the intercourse in the streets and amongst private dwellings and public shops. Cases were instanced where absolute nuisances had been created by employing broken stones; and that it was well known that, in some large cities, the want of pavements led to accumulations of filth, very injurious to the health of the inhabitants. It was observed, as a constant and abundant supply of broken stones would be required for repairs always hastily performed while the streets were empty, that receptacles, such as made in country roads,

* See THE BUILDER, vol. vii., p. 461.

BRONZE CANDELABRUM, VENICE.

would not readily be found in London, where space is so valuable and so fully occupied." And he ended with these observations:—"Corresponding with my own sentiment and experience, I am led to recommend pavement in preference to broken stones for the carriageways of the streets of St. George's parish."

Sir John Macneill, C. E.., who succeeded Telford, on the London and Holyhead-road (admitted by competent judges to be the most perfect line of turnpike-road in the world), entertained the same opinion, and has corroborated the accuracy of the views propounded by Telford, by a series of experiments made upon road surfaces of different constructions, with an instrument which he had invented for the purpose of testing the friction, or the labour of horses in draught.

The result of his observations, which are recorded in several treatises on roads, and are repeatedly referred to as unquestionable authority, are as follows:

1. On a well made pavement the draught is 33 lbs.
2. On a broken stone surface..... 65 ,,
3. On a gravel road..... 147 ,,
4. On a broken stone road, upon a rough pavement foundation ..... 46 ,,

The machine was attached to a waggon, weighing 21 cwt., when the experiments were made.

Sir Henry Parnell, Bart., afterwards Lord Congleton, although occupying an elevated station in society, nevertheless, for the love of the science, made the practical part of road-making his peculiar study, and by constant and unremitted application, rendered himself thoroughly conversant with the most approved systems,—and he entertained similar views to those above stated, as will be seen by reference to his admirable "Treatise on Roads," which is a valuable standard work, and ought to be the text book to all connected with road works. Sir James M'Adam, who has greatly distinguished himself as a road regenerator, and rendered great service to his country by the numerous improvements he has been instrumental in carrying into effect on different roads in various parts of the country, has lived to change his views on the subject of the superiority of macadamized roads for the streets of towns; as, in a letter recently published, he admits that the introduction of macadamized roads in the City of London was a complete failure, and that he laments that circumstance ever taking place. This is the great author and founder of the system. From returns of the relative expenses of macadamized roads and pavements in the City of London, which appeared in the minutes of evidence given on the Westminster Improvement Bill, there is no less a difference, in ten years, than 2*l.* on every superficial yard; pavement for that time costing 10s. 10d., and macadamized roads, 2*l.* 10s. 10d.

Mr. James Walker, an engineer of eminence, further corroborated the above opinion in his evidence given before a select committee of the House of Commons on the Commercial Bill. He says: "It is not, I am sure, overstating the advantages of paving, but rather otherwise, to say, taking the year through, that two horses will do as much or more work with the same labour to themselves upon a paved road than three upon a gravelled road, if the traffic upon the gravelled road is considerable; and if the effect of this is brought into figures, the saving of the expense of carriage will be found to be very great when compared with the cost of paving. If the annual tonnage upon the Commercial-road be taken at 250,000 tons, and at the rate of only 3s. per ton from the docks, it could not, on a gravel or stone road, be done under 4s., or one-third per ton difference, which makes a saving of 12,500*l.* in one year.

I think I am under the mark in all these figures; and I am convinced, therefore, that the introduction of paving would, in many cases, be productive of great advantages."

Sir John Rennie, C.E., in his "History of Engineering," read before the Institute of Civil Engineers during the time he was president, under the head of "Paving," states,—"When the turnpike-road system was introduced, the pavement of the metropolis was improved by the substitution of square blocks of granite, in place of the rounded boulders, or large irregular pebbles, which had previously been used. Blocks of granite of various dimensions have, by way of experiment, been laid on concrete, with the joints grouted with lime and sand, in order to insure the greatest stability amongst the blocks. M'Adam's system was introduced in some streets where the traffic was light, but it did not equal the granite paving."

Mr. Hayward, the surveyor of the City of London Sewers Commission, in the evidence he prepared for the Metropolitan Commissioners of Inquiry, but which was not published in the report, says, that although every kind of road surface had been tried in London, he entertains an opinion in favour of the narrow 3-inch sets as the best road surface under every circumstance, as stated in the report, and which was copied in your journal, No. 353, page 535. Mr. Kelsey, the former City surveyor of London, estimates the expenses of the different descriptions of pavement to vary in the different streets to from ¼d. to 3d., or an average of about 1d. per superficial yard per annum.

Mr. Newlands, the borough engineer of Liverpool, in his report on the sewerage and other works of that important borough, enters very fully into the question. At page 85 he observes—"If the streets of a town be unevenly paved, putrid exhalations will arise from the accumulations of filth in the hollows and joints of the stones, which neither the scavenger's brush nor water can remove.

A smooth non-absorbent surface, from which the dirt is easily removed, without hollow or open joints to collect the filth, is what health demands, when it possesses in addition the quality of hardness; and such a surface offers the least resistance to traction.

Tested by this, a macadamized street is the worst that possibly can be made. In such a street the soft absorbent material becomes soaked with liquid filth, which, putrifying, sends its noxious exhalations into the atmosphere. Where there is a great traffic, the road wears so fast as to be constantly under repair, while, by every indentation of the surface, and the laying on of loose materials, the friction is immensely increased. In wet weather it is covered with mud, and in dry weather the air is loaded with the dust of the disintegrated stones mingled with the filth caused by the traffic, producing disease of the respiratory organs, and rapidly deteriorating food and clothing in the houses, and the articles exposed for sale in the neighbouring shops. If to these evils it is added, that a macadamized road is the most expensive to keep in repair, and costs *four* times as much to cleanse as a paved road, I shall be borne out in saying, that such a road in a town is an expensive nuisance which should be done away with as soon as possible. The next lowest in the scale of roads, both as regards health and traffic, is one formed of boulder pitching. Such a road, from the amorphous forms of the stones, cannot be made with a very even surface; the joints must necessarily be very wide, affording large receptacles for filth; and this irregularity of the bases of the stones rendering it difficult to give them a solid bearing, they are acted upon unequally by the traffic, and ruts and hollows are speedily formed. Streets formed with stones dressed in regular courses are the best; and on sanitary considerations, and also as far as the diminution of friction is concerned, the stones should be smooth and the joints close.

The proper space will be found to be about 4½ inches, of which about 3 inches may be given to the stones and half as much to the joint. To prevent the filth from accumulating in this wide joint, and also to keep the stones stedfast in their places, it should be filled up, nearly flush with the surface of the stones, with some cementitious substances impervious to moisture.

To insure stability, the courses should be made nearly wedge-form; they should be in contact at the base and for about one-third of their height, and the width of the joint should be obtained by diminishing the width of the upper surface of the courses. The joints should be rammed hard with macadam or clean shingle and then filled with a coarse kind of asphalte, composed of the pitch of gas tar and small gravel. A few of the streets of Liverpool have been repaired upon this principle, and, as far as my observations have gone, appear to answer the purpose intended. Mr. Newlands insists upon a sound and durable foundation being previously prepared. Mr. J. W. Lather, C.E., in a report recently published on the sewage, &c., of Leeds, condemns the system of repairing the streets of that populous borough with small broken stones and round pebble pavement, and suggests the desirability of substituting square-set pavement, as the most economical and healthy for the inhabitants. His plans, I believe, are intended to be carried out by the corporation.

In the populous and important borough of Manchester like opinions are entertained, as the authorities there are gradually extending the system of narrow square-set pavement, so that eventually macadamized roads and round pebble-stone pavement will be entirely superseded.

This pavement, which is composed of sets of Penmanmawr stones, is laid in courses from one inch to one inch-and-a-half asunder, and the cavities between the rows are filled in with small broken stones mixed with gas tar, as suggested and adopted by Mr. Newlands in Liverpool; but I observe by the *Manchester Guardian* that complaints are made that this process renders the surface of the stones slippery to travel over, and if such is the case it will doubtless be abandoned.

It is very generally remarked that the principal streets in Manchester are kept in a better state of repair than those of any town in the kingdom: in fact, they are looked upon as models of street-surfaces by the authorities of the surrounding towns, and I think very properly so, too: this I attribute to their wise policy of discontinuing to use the round pebble pavement, and their abandonment of the self-exploded system of macadamization. In fact, so generally is the system of square set pavement being introduced and extended in the principal towns in the United Kingdom, that multitudes of other instances could be adduced to show the general feeling that prevails even amongst the public at large, without reference to the opinions of scientific men, as to the unsuitableness of small broken stones for the streets of towns, and of the almost equally objectionable round pebble pavement.

I must defer entering minutely into the statistical and practical part of the subject until a future opportunity, when, I doubt not, I shall be enabled to convince those who may be sceptical, that the aid of science may, with great public advantage, be enlisted in the cause of the sanitary and general improvement of our towns, and that we ought not to be led away or retrograde in the onward march, now the spirit of improvement is abroad, by the adoption of the stale and somewhat threadbare theory of "the superiority of macadamized roads for the streets of towns."

BAYLIS.

LINEAR PERSPECTIVE.

IN an article upon this subject in the opening number of the present volume of THE BUILDER, it may be remembered that I professed solely to answer the objections alleged against the science, as at present received, by a writer in the *Art-Journal*, who had presumptuously declared that it was not true—not to oppose any other scheme that might be presented for notice. In the exposition I then gave, Mr. Heald, of Carlisle, has, in an essay since published in these pages, courteously acknowledged his concurrence. Yet, without proposing a change in the form of the picture, he has introduced an entirely different theory. Now, as in my former papers it was demonstrated that, without this condition, no alteration can be made in the system of perspective, his proposal is an attempt to substitute known and acknowledged imperfection for what, as he himself admits, is really perfect!

But let us examine the system he has advanced, and for which he has instituted so able a defence. Let us do this, and compare it with perspective as now used. When we have done so, the former will not, I think, appear "equally true," nor be found to have "the additional recommendation" either "of greater beauty or a more extended range." He says, that in "cylindrical perspective" "every eye looking at it (the picture) must be in the point of sight." Now, the fact is, no eye *can* be in the point of sight, for there *is* no point of

sight. There is a line of sight, along which, to view each part with anything approaching to correctness, the eye must travel; but, as a whole, which every picture must be, or it is no picture in the artistic sense of the word, no eye can positively view it aright. Whereas, in linear perspective, there is a point opposite the picture, generally in the centre, and which a person at all acquainted with pictures has no difficulty in finding with sufficient exactness, from which a view absolutely correct can be obtained. The picture, as drawn upon the cylinder, will, of course, be correct; but, when flattened out, and hung against the wall, it will be so no longer, as it cannot then be correctly viewed from one point. In fact, the theory is founded upon a false idea of a picture, which it presupposes may be a series of ideas and effects, unfolding as the eye travels on the line of sight; whereas unity of idea and composition is essential to a picture. A picture, in the artistic and proper sense of the word, is one composition, embodying one leading or grand idea to which everything else contributes. There may be some minor ideas and effects, but, like episodes in a poem, they are all to illustrate the main one, which must strike the spectator at once, or the picture is a failure. To contemplate the harmony and beauty of any picture, properly so called, it must be viewed from one point; all its groupings, light and shade, colour, and the rest, were taken, or imagined, from one point by the artist. Any pictorial representation that could not be viewed at one, but at two or more definite points, would in reality be two or more pictures, as the case might be. A panoramic view of a large tract of country would, perhaps, be most advantageously painted on the plan proposed by Mr. Heald; but such views are not in reality pictures; their production does not belong to art. While it is essential to the nature of a picture, essential to the development of the subject, that it have but one point of view, if it cannot be viewed from one point, its groupings and composition, its breadth of light and shade, its harmony of colour, all that costs the artist so much thought to obtain,—and which so beset his path with difficulties, are lost.

Mr. Heald, does not see clearly what are the demands, or the limits of the demands, of pictorial art on the aid of perspective.

Let us consider the nature and origin of the latter, and its connection with art. Perspective is the daughter of geometry, and the handmaid of art, a priestess at her altar. Now, as the legitimate offspring of geometry, her ministrations to art, as far as they are rendered, must of necessity be truthful, and their truthfulness Mr. Heald admits. The only question, therefore, is, are the services of sufficient extent? or, in other words, is perspective equal to the discharge of those functions which art requires of her? Now, she has long held office in the temple of art, and has never failed in her duty, when rightly invoked; yet here are gentlemen who ungallantly propose to discard her in favour of another, some nondescript scion of optics, confessedly less correct in her conduct, but supposed to be more accommodating than her predecessor.

One of the advantages said to be gained by this change is greater scope; that is to say, the privilege to go beyond 60 degrees. Now, perspective is not deficient on this point; it will go as far as the law of our sight allows us to see. But if 60 degrees *were* its greatest truthful scope, no valid objection could be founded on *that*, for anything beyond 60 degrees is as much uncalled for as is an increase in the gravitation of the globe, or any other innovation in the works of nature. No artist has ever had cause to complain of want of "scope." The grandest conceptions of genius have been embodied within that angle. We never heard that Claude Lorraine, Poussin, or any other landscape painter, among the old or modern masters, ever sighed for greater scope, or felt their genius cramped for lack of it. It is the latter-mentioned class of artists that requires the greatest scope. In "history," any difficulty on this score is out of the question. But even landscape artists have abundance of scope within 60 degrees. Judicious ones, I believe, frequently prefer to concentrate their skill on a small portion—within half that angle. When a large extent of country is to be introduced into a landscape, the plan is to increase the distance of the point of sight, and thus decrease the angle under which it is viewed. Further, other difficulties in the management of the picture increase too much along with increase of extent, for any artist to wish for it, who is awake to the arduousness of his profession.

I assert the inviolability of the perspective medium, or plane of the actual picture, because it is not only a true, but the only convenient one; indeed, we can have no other. In my letter in the *Art-Journal*, I remarked that the perspective medium or picture *might* be a segment of a sphere (rather a difficult form for canvas or paper to assume), but the insurmountable objection to this form being practically carried out every artist knows; the picture would inevitably be spoiled to the view by the play of light and shade of the spherical surface itself, and which the plane in common use avoids.

Since the publication of Mr. Heald's theory, a third essay from Mr. Herdman, in support of his views, and written, I believe, two or three months ago, has appeared in the *Art-Journal*. To this, I think, my former paper in THE BUILDER will be considered a full reply. The whole seems to be a confused wandering from the true point at issue; a "darkening of counsel by words without knowledge;" and I can only now add, that, if the writer, after all the pains taken to enlighten him, is still unconvinced of his error, further argument on the subject would be useless.

SAMUEL HUGGINS.

THE BUILDING FOR THE '51 EXHIBITION.

THE committee appointed to advise on "all matters relating to the building," have invited suggestions for the general arrangement of the buildings and premises required.

They do not offer any pecuniary reward for such plans:—they anticipate they may not be limited to the selection of any one plan, but may derive useful ideas from many; and that "the best plan may be determined upon by the help of this general assistance." They propose to make a report, in which they will acknowledge by name those whose plans have been wholly or partially adopted, and perhaps offer some honorary distinction to the successful contributors.

A plan of the ground has been engraved, and may be had on application to the secretaries of the Commission, at the New Palace at Westminster, together with the rules and conditions, which are *to be strictly observed*.

In these it is set forth, that the communications from contributors must consist of a single sheet of paper, not larger than the engraving, with a simple ground plan upon a scale of $\frac{1}{1000}$ of the full size, with such elevations and sections only of the building, and on the same sheet, as may be necessary to elucidate the system proposed—such elevations and sections not being intended to convey more than a general idea of the building, and not entering into details of construction or of architectural decoration; to be accompanied by a short clear written explanation of the system recommended, on a separate sheet.

The plans, &c., must be sent on or before 8th April next, addressed to the Secretaries of the Exhibition, New Palace at Westminster, London.

It is suggested that the most convenient mode of preparing the plan, elevation, and section, would be to draw them upon one of the engraved copies of the plan of the ground which accompany the instructions.

The existing groups of trees must be preserved.

"The roofed portion of the building is to cover a space of 700,000 square feet, or about 65,000 square metres; and the whole building must not occupy, including open spaces, an area of more than 900,000 square feet, or about 84,000 square metres. The building generally will be of one story only.

No space will be required for cattle, or for shrubs or flowers.

It may be assumed, so far as it affects the ground plan, that the light will be obtained entirely from the roof, and the building will be constructed of fire-proof materials."

The general requirements are:—

"1. Simplicity of arrangement.

2. Economy of space.

3. Capability of extending or curtailing the building, without destroying its symmetry as a whole, or interfering with the general arrangement, it being impossible to determine the exact extent of roof required until a late period of construction.

4. Adaptation for the erection of separate portion of the building at different periods.

5. Conveniences of ingress and egress, with facilities of access to all parts of the exhibition, either from the exterior or interior.

6. Means of classification of the various objects of different departments.*

7. Wall space for the display of articles requiring it.

8. Means of affording private access and accommodation for exhibitors, with counting-houses, if required, committee-rooms, council-rooms, public refreshment-rooms, and all other public and private accommodation. (This portion of the building may be in two or more stories, if required.)

9. Internal arrangements, by which, under proper regulations, large crowds of visitors may circulate freely, and have convenient access to all parts of the exhibition, and uninterrupted means of examining the various objects exhibited."

ELECTRO-TELEGRAPHIC PROGRESS.

WE should not make much *progress*, apparently, if the present monopolizers of this important public property were to have it all their own way. As regards the *general* use of the electric telegraph, at charges available to the public at large, they have hitherto been acting the part of the dog in the manger, neither providing for it themselves nor willing to allow others to do so. Complaints, intemperately urged, doubtless, by parties instigated by the company's high charges and official impromptitude to exert themselves in the establishment of a *people's* telegraph, have been smartly snubbed by actions of damages for defamation of personal character, while the new company's bill in Parliament has itself been quite as defamatorily characterized, on the part of the old, as "an attempt to extort money" from the monopolizers, so that the arrestment of its progress might be prayed for; and, in fine, that progress itself has been, by a side wind, further interfered with, and the spirited extension of the telegraph across the channel, in international communication with our French neighbours, by Mr. Brett, revenged or circumvented, by other law actions, in which this "dog in the manger" virtually claims the exclusive *use*—if we can call it so—of electric currents for telegraphic purposes at all! and that, too, although the principal patent on which the company claims, is actually about to expire, being now in the last year of its existence! At same time that it thus shows symptoms of a determination to "die hard," we are glad to observe some slight symptoms of a better spirit, which would have been much more likely to have benefited the company than such proceedings had they appeared in time. It is reported that reductions of the charges on all messages, to 10s. for every twenty words, transmitted upwards of 280 miles, have lately been made. Now, whatever *value* the public may set on the animus of such reductions so tardily begun, it is certainly a pity the hint was not taken at once, when the feeling of the public was first decidedly expressed, in the rapid circulation of our little paragraph through the known organs of public opinion, the newspaper press. The pursuit of a bold and rapid course of progress further in the same direction, might even yet perhaps convince the public and the Legislature of the non-necessity of another company. Meantime there is not a moment to lose; for notwithstanding the attempt to damn the new bill in the estimation of the Commons it has been read a second time and ordered for further progress.——The French bill for opening the State electric telegraph of France to the public is under weigh. By Art. 6, private despatches are to be charged,—from 1 to 20 words, 20 centimes per myriamètre (10,000 mètres); from 21 to 40 words, 35 c.; from 41 to 60, 50 c.; from 61 to 80, 65 c.; from 81 to 100, 80 c.,—above 100 2 c.

* The Commission have determined upon the following classification:—

Section 1.—Raw Materials and Produce,—illustrative of the natural productions on which human industry is employed.

Section 2.—Machinery for Agricultural, Manufacturing, Engineering, and other purposes, and Mechanical Inventions,—illustrative of the agents which human ingenuity brings to bear upon the products of nature.

Section 3.—Manufactures,—illustrative of the results produced by the operation of human industry upon natural produce.

Section 4.—Sculpture, Models, and the Plastic Art generally,—illustrative of the taste and skill displayed in such applications of human industry.

Of which, Sections 2 and 3 will probably require by far the larger space.

per myriamètre for every additional word. By Art. 9, the longer despatches may occasionally be delayed till short messages be transmitted. ——In the New York *Journal of Commerce*, Mr. John Wilkins details how he proposes to lay down the projected Atlantic telegraph. A repeating station in the first place 500 miles off Newfoundland, the last available mooring ground on that side, would diminish the great submarine stretch, he observes, to 1,600 miles, or little more than half the length of way to Ireland. As for the main part of the scheme itself, he proposes, whatever be the depth, to lay the line along the bed of the ocean, the average depth of which, however, he estimates at not more than two miles. But submarine valleys of even 10 or 12 miles in depth, and 40 or 50 miles across, he suggests, may easily be crossed, by festooning on floats at intervals of two miles, and within 200 fathoms of the surface. He has arrangements, he says, for sinking the line to the bottom, even were it 10 or 12 miles. This he would effect by intervening floats, revolving at different depths, and properly adjusted in their centres of buoyancy and gravitation, so as to relieve the upper stages of the line from strain. There would be accessible connections 100 miles apart, or nearer, secured by moored floats, with flag-staffs, to guide the telegraph tender in taking up any damaged portion. Damage, however, at such a depth he does not seem to anticipate. Twelve months, he thinks, ought to complete it, at an expense of not more than half-a-million of dollars "honestly spent." Two ships and a tender, with winding machinery, &c., would suffice. —— Mr. Bain claims the origin of Mr. Bakewell's electro-chemical printing telegraph, and Mr. Isham Baggs, in a letter to the *Mechanics' Magazine*, lays claim to the origin of Mr. Bain's idea. Such is the fate of all ingenious ideas: we only hope that the anxiety of the claimants is denotive of the assured and speedy practical realization of its every-day use to the public.

THE GRAVE QUESTION.

It would not, I think, be easy to greet the people of London with better tidings than those shadowed forth in the report of the Board of Health, upon metropolitan burials, as quoted in your last number. The mighty charge of the annual burying of 50,000 dead is treated as becomes the high authority of the Board; and, at last, as becomes the dignity of the charge itself. That vast army then will no longer rot unburied amidst the homes of a nation whose outskirts are within cannon range of its centre. How long *now* shall the diurnal tide slop back our excrements into our cisterns, and the cloacinal mud of the Thames send up its upas vapour, to sap our vigour, waste our taxed means, and blight our happiness? "How many hours of expensive idleness upon trembling sick beds, or around fetid graves, yawning prematurely for beloved friends, might last year have spared, if 22,000*l.* per annum had, for a little while past, done its work! 22,000 pounds! and what more? a corpse for every pound." The wildest injustice this, that for our own past supineness the door posts of a *dilettante* commission should be bespattered with all the waste blood of 1849.

But let it have a care; be it never so difficult to make a quorum,—be it never so difficult for a quorum to know, to discern, to decide,—1850 tarries not, and nine of its leaves are yet to read.

Still it is pleasant now to look out and forward to the sunny fields at Erith, and the lark soaring over the peaceful graves. Grave! a definition and a warning: "six cubic yards of earth over a man's body, sacred, from the sod downwards, until the last trump."

VOX DE SOCCO TERENTE.

PROPOSED TESTIMONIAL TO SIR ROBERT PEEL.—Some of our subscribers have requested us to inquire what has become of a (penny) subscription paid into the office of the *Morning Advertiser* some time ago, for the purpose of raising a statue to Sir Robert Peel. Doubtless the conductors of the respectable journal in question will give information on the subject, if applied to.

Miscellanea.

INSTITUTION OF CIVIL ENGINEERS.—On Tuesday, February 26, Mr. William Cubitt, President, in the chair, the paper read was "On the Street Paving of the Metropolis, with an Account of a peculiar System adopted at the London and North-Western Railway Station, Euston-square," by Mr. William Taylor. The system was upon entirely new principles. The method employed was, after removing the subsoil to the depth of 16 inches, to lay a thickness of 4 inches of strong gravel, equally and well rammed, then another layer of gravel mixed with a small quantity of chalk, or hoggin, for the purpose of giving elasticity, the ramming being continued as before; a third coat, of the same materials, was then laid and rammed, a regular degree of convexity of surface being preserved. The stones used were of Mountsorrel granite, dressed and squared into regular masses of 4 inches deep, 3 inches thick, and 4 inches long: these stones were laid in a bed of fine sand, 1 inch in thickness, equally spread over the surface of the substratum, and they were carefully placed, so that no stone should rock in its bed. The whole surface was then well driven down with wooden rammers, weighing fifty-five pounds each. The small size of the stones enabled them to be well rammed home, so that the surface of the pavement never sank, and the hardness and toughness of the material prevented the stones from being worn down by any traffic, however heavy. It was stated that this system was found infinitely preferable to the employment of large stones, and the statement of cost was vastly in its favour; the price of the ordinary kind of granite paving, in London, being 18s. per superficial yard, and the maximum cost of the new, or "Euston" pavement, including the substratum, was not 12s. per yard, and, deducting the value of the old stones, not (in this latter case), claimed by the contractor, the net cost would only be 9s. per yard. On the 5th inst. the discussion of this system of street paving was resumed, and was extended to such a length as to preclude the reading of any paper.

THE OPENING OF THE BRITANNIA TUBULAR BRIDGE took place on Tuesday last, when Mr. Stephenson drove in the last rivet of *two millions* now clenched in the plates of this triumph of engineering skill. A train of three locomotives, with Mr. S. as the driver of the first, and accompanied by a number of engineers and other gentlemen, anxious to brave the first peril, if it could be called so, swept slowly through the tube, with a weight of 90 tons and upwards, resting in the middle, but without the slightest appreciable vibration, deflection, or other influence on the tube. Another train of 300 tons' weight followed, and the experiment was wound up by a sterner ordeal still, in the resting of a train of 200 tons weight of coals for two hours on the centre of the Carnarvonshire tube, which was not deflected more than $\frac{4}{10}$ of one of the 13 inches, said to be consistent with its safety. We hope to make a personal inspection soon.

SUBSTITUTE FOR WINDOW-TAX. — To those who, like yourself, are seeking for the speedy abolition of the window-tax, I would submit for consideration, that a tax equitably adjusted by scale to the assessed rental of each house, so as not to impose any additional burden in any instance, might be advantageously and fairly substituted for that obnoxious impost on light and ventilation. The Government is already in possession of all the information required to carry the scheme into execution, and collects, indeed, at this present time, a tax on that very basis. Those who respectively pay the present window-tax should, of course, pay the proposed substitute. In the course of working out the details of the new impost, it might, perhaps, be possible to create something of a surplus sufficient to allow of the *total* remission of the excise duty now levied on the manufacture of bricks. Any partial remission would be, I think, of little benefit to either manufacturer or consumer, but only so much lost to the revenue.—W.

INSTITUTIONS FOR THE BLIND.—Mr. S. Hemming has been chosen architect for the intended new building at Birmingham.—Preliminary operations for the erection of a new blind asylum and church have been commenced at Liverpool, on a site between Hardman-street, Hope-street, and Hope-place.

PROJECTED WORKS.—Advertisements have been issued for tenders, by 23rd inst., for enlarging, repewing, and restoring the parish church of Little Harrowden (Northampton); by a date not specified, for the erection of a dwelling-house and farm offices, at Tilton-on-Hill, Leicester; by 1st proximo, for the construction and erection of the iron roofing over new London terminus of Brighton and South Coast Railway; by 22nd inst., for the erection of about 40 carcases of houses at Dalston; by 14th, for squaring and laying 200,000 feet of 2½ inch Yorkshire paving in St. Marylebone; by 5th proximo for repairing stone tramway and laying down foot pavements and kerbing in Commercial-road; by 20th inst., for cutting, forming, and making about 1,200 yards lineal of streets at Coventry, and for forming and planting pleasure-grounds, putting in culverts, cesspools, sluices, drains, &c., at Swanswell Pool, Coventry; by 25th inst., for the erection of infirmary chapel, consulting-rooms, &c., at Worcester Infirmary; by 12th inst., for maintenance and repairs of stations and works on the Brighton and South Coast Railway; and by 19th inst., for the execution of a short branch of the Midland at Birmingham.

VIEW OF ROME WITH THREE EFFECTS.—A clever dioramic view of (part of) Rome, under different circumstances, is being exhibited at the Walhalla, in Leicester-square. After a day-light picture with St. Peter's as principal object, night closes in, and the illumination of the cathedral, one of the most remarkable sights in the wonderful city, is represented: to this succeeds a storm, which afterwards clears off, and then the army of France are to be imagined entering the city. This picture is the work of one of a name known in more than one walk of art.

METROPOLITAN COMMISSION OF SEWERS.—At the general court held on Friday in last week, Lord Ebrington, in the chair, and present, Sir J. Burgoyne, Captains Dawson and Harness, and Messrs. Hawes and Hardwick, after some routine business, Mr. Cubitt got leave to build 1,400 feet of sewer in Kenilworth-street, and the Lambeth Water Works Company, conditionally, to drain into the Belvidere-road sewers. A motion for giving a superannuation allowance of 120*l.* a-year to Mr. J. Newman, late surveyor in the Surrey and Kent Commission, was postponed till next court day, when we hope it will be agreed to. The court then passed a resolution approving of the efforts of the Sewage Manure Company, to remove sewage from the Thames, and promising to all such efforts every encouragement consistent with the interests confided to the commission.

REGISTERED BRICKS.—At the Oxford circuit lately, it was decided by Mr. Justice Cresswell that "a design for making ventilating bricks, with only half the taxable quantity of clay in an ordinary brick" might properly be registered and not patented, and that even if it were such an invention as might be patented, the inventor, under the late Registration Act, was at liberty to waive the greater privileges which he should enjoy by taking out a patent, and content himself with the minor advantages afforded by his proceeding under that statute."

TO PERSONS SENDING TESTIMONIALS.—A correspondent, "J. P.," asks us to caution foremen, clerks of works, and others who may have occasion to reply to advertisements, against enclosing their original testimonials, he, by doing so, having "lost a ten years' character." Copies only should be sent in the first instance. The number of applications in such cases usually renders reply on the part of the advertiser to each applicant, or the return of documents, impracticable. In answer to *one* advertisement in our columns for a clerk of the works a few weeks ago, more than 150 letters were received!

MEETINGS OF SCIENTIFIC BODIES

To be held during the ensuing week.

TUESDAY, March 12.—Institution of Civil Engineers, 8 p.m.

WEDNESDAY, 13.—Society of Arts, 8 p.m.

THURSDAY, 14.—Royal Society, 8½ p.m.; Society of Antiquaries, 8 p.m.

FRIDAY, 15.—Architectural Association, 8 p.m.

TENDERS

For the Lincoln and Lincolnshire Penitent Females Home. Mr. Pearson Bellamy, architect:—

Sharman and Son, Spalding	£2,225
Baker and Son, Sleaford	1,990
Charles Ward, Lincoln	1,845
Jarvis and Thompson, Brigg	1,842
Kirk and Son, Lincoln	1,815
Margisson and Co., Hull	1,797
Barnes and Birch, Lincoln (accepted)	1,770

For rebuilding and finishing No. 40, Pall-mall, St. James's, adjoining the Army and Navy Club-houses, for Mr. T. T. Tatham. Messrs. Garland and Christopher, architects:—

Nicholson and Son	£2,590
Smith and Appleford	2,377
G. Bird and Co.	2,348
Piper and Son	2,195
John Clemence (accepted)	1,998

The house to be fireproof throughout. The contract is exclusive of the iron joists, but includes all fittings.

TO CORRESPONDENTS.

"E. J. C.," "L. T.," Wisbech, "M. J.," Lancaster, "T. T.," "An Old Contributor," "J. C. C.," "A Builder's Clerk," "C. D. V." (request shall be attended to), "J. C. D." (a 2s. 6d. stamp is desirable), "J. M." (declined with thanks), "*Amicus*" (we are forced to decline by the constant repetition of the request), "W. M.," Birmingham, "Idler in London," "I. C.," "A. M.," "E. W. G." (declined with thanks), "G. E." (was forestalled long ago by Mr. Martin), "Lady B.," "Sheet 33, Johnson's Plan of Edinburgh," "Suggestions for Building Baths and Washhouses" (Rivington), "Remarks on Drainage Plan of Commissioners, for Surrey," "Marylebone Institution Gazette," No. 3; "Remarks on the Conveyance of the Mails between London and Paris" (Effingham Wilson), "An Exposition of the Case of the Assistant-Surgeons of Navy" (Churchill), "Papers on the New Self-Acting Tidal Guage at Sunderland Harbour," by Mr. T. Meik; "The Christian Commonwealth," by J. M. Morgan.

"*Books and Addresses.*"—We have not time to point out books or find addresses.

NOTICE.—All communications respecting *advertisements* should be addressed to the "Publisher," and not to the "Editor:" all other communications should be addressed to the EDITOR, and *not* to the Publisher.

ADVERTISEMENTS.

THE BRISTOL CHURCH and TURRET-CLOCK MANUFACTORY. Established 1726. THOMAS HALE and Co. respectfully inform architects, churchwardens, and others, that they contract for making and erecting church and turret-clocks of any magnitude, comprising all the latest improvements, at reasonable charges. Clocks defective in construction altered or repaired, in any part of the kingdom, upon moderate terms.—Note the address, 3, Narrow Wine-street, Bristol (late Wasbrough, Hale, and Co.)

ROUGH PLATE GLASS.—TO BE SOLD, a large quantity of small-sized ROUGH PLATE GLASS, suitable for glazing workshops, &c., at a very reduced price.—Apply at the Soho Plate Glass Warehouse, 26, Soho-square.

SOHO CROWN, SHEET, PATENT PLATE, ORNAMENTAL, and PLATE GLASS WAREHOUSE, 26, Soho-square, London.—ALFRED GOSLETT begs to call the attention of the trade to his large and valuable STOCK of the above descriptions of GLASS, which he can offer at the very lowest wholesale prices, delivered either in crates, as manufactured, or cut to size and glazed.

PATENT PLATE GLASS.—HETLEY and CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of PRICES for the above is now ready, and will be forwarded on application. A REDUCTION of about 40 per cent. has been made on the usual Glazing sizes.—Sheet, Crown, and Ornamental Window-Glass Warehouse, 35, Soho-square, London.—ROUGH PLATE GLASS.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Baker-street, Portman-square.—Cash only.

E. and W. H. JACKSON beg to call the attention of Builders and the trade to the reduced prices of their PATENT PLATE GLASS. BRITISH PLATE, silvered and for glazing, of unrivalled quality and finish. ROUGH PLATE, CROWN, SHEET, COLOURED, and ORNAMENTAL GLASS, in every variety, of the best manufacture, and at the lowest terms. List of prices, estimates, and every information sent on application. THE ROYAL ARMS, richly painted on glass,—size, 86 inches by 58,—well adapted for a public Company's Hall; to be seen at their warehouse, 315, Oxford-street.

MARYLEBONE LEAD, GLASS, and COLOUR WAREHOUSE, and ORNAMENTAL GLASS WORKS, 15, LISSON-GROVE NORTH, NEW ROAD.—I beg to announce to architects and builders, that I have succeeded to the very old established business carried on in the above premises, and while I am determined to keep no inferior articles in my stock, I am able, by carefully watching the markets, and adhering to the system of BUYING and SELLING for CASH, to supply all plumbing, painting, glazing, and decorating materials and tools, at the lowest current prices. I would especially invite the attention of architects, &c., to my DECORATIVE GLASS, which I execute wholly upon the premises; and by personal attention, and the employment of first-rate workmen, I am able to present every description, unsurpassed both in design and execution.—Gas and Lamp Shades and Glasses in every variety.—SAMUEL K. BLAND.

*** Complete price lists forwarded on application.

HURWOOD'S PATENT APPARATUS for MOVING and FASTENING WINDOWS, &c.

GENERAL DESCRIPTION.—This invention recommends itself in all its applications by its simplicity, efficiency, and certainty of action, and entirely dispenses with all pulleys, weights, cords, springs, sash-opes, fastenings, &c. A principal feature in the invention is the application of the screw, or worm working into a wheel or rack, as a prime mover. The apparatus moves with ease and certainty; is very durable, not likely to be out of order; is perfectly secure in every position, and is applicable to conservatories, French casements, folding-shutters, stables, ventilators, skylights, ship scuttles, deck and stern lights, and to all descriptions of windows, and is particularly adapted to public buildings, where security is an important object, as in lunatic asylums.

Further particulars may be had upon application to the Patentee, and also the terms upon which licenses are granted.

*** Illustrative Catalogues may also be obtained from the Patentee, Ipswich, by inclosing twelve stamps, to cover postage.

PIMLICO SLATE WORKS.—Mr. MAGNUS begs to announce that his PRICE LIST of PLAIN and ENAMELLED SLATE for 1850 is NOW READY, and can be had on application at the Manufactory, 39 and 40 Upper Belgrave-place, Pimlico.

STIRLING'S BELVEDERE SLATE WORKS, Belvedere-road, Lambeth.—A reduced list of prices of the best WELCH SLATE SLABS, planed both faces, will be sent on application (post paid) being made, and inclosing a postage stamp. The prices are under those advertised for inferior slates.

BATH STONE OF BEST QUALITY.

RANDELL and SAUNDERS, QUARRYMEN and STONE MERCHANTS, BATH.

List of prices, also cost for transit to any part of the kingdom, furnished on application.

MARKET WHARF, REGENT'S-PARK BASIN.—Messrs. MARTIN and WOOD (late Scoles and Martin) solicit the attention of Builders, Masons, and others, to their stock of Portland, York, and Derby Stone; also Bangor Slates, Lime, Cement, Plaster, Bricks, Tiles, Laths, Fire-goods, Fire-stone, &c., sold at the lowest possible prices for Cash. Portland Headstones, Ledgers, Steps, Landings, &c., cut to order on the shortest notice. Tarpaulings let on hire. A Stock of Northen's Drain Pipes, Syphons, &c., always on hand. Mortar, Lime and Hair, Fine Stuff, &c.

BATH STONE.—Messrs. RANDELL and SAUNDERS, Quarrymen, Bath, have appointed Messrs. MARTIN and WOOD their sole agents in London. M. and W. beg to inform Architects, Masons, Builders, &c., that a large assortment of the much approved CORSHAM DOWN and other BATH STONE will always be kept at the Depot, opposite the Great Western Railway Station, Paddington. Orders will also be received at Market Wharf, Regent's-park Basin.

BATH STONE.—Messrs. DANIEL and CHARLES JONES announce to Architects and Builders, that they continue to supply the FARLEIGH and COMBE DOWN STONE of the best qualities upon the most reasonable terms.—Bradford, Wilts.

BATH STONE DEPOT, Great Western Railway, Paddington.—EDWARD FLUESTER (late Agent for Job Picter) respectfully thanks builders and others for the kind support he has received during his Agency, and having taken the Business on his own account, hopes that, by supplying all kinds of Bath and Painswick Stone of the best quality, and at the lowest prices, to merit a continuance of their favours.

DEVON WHARF, REGENT'S CANAL, Mile-end.—YORKSHIRE PAVING, SELF-FACED and SAWN SLABS, STEPS, LANDINGS, and all kinds of STONE, can be supplied by JOHN KNIGHT and SON, cheaper than at any other place in London. Depôt for the DEVON HAYTOR GRANITE COMPANY, granite curb steps, tramstones, pitching, and blocks of any size. Blue lias, grey stone, and chalk lime, cement, hair, glazed stone-ware drain pipes, &c.

ANSTONE STONE WHARF, STANGATE.—Mr. GRISSELL has the honour to inform Architects and Builders that he has made arrangements for the SUPPLY of the ANSTONE STONE for all building purposes, and which can now be seen at the above wharf by application to Mr. W. G. WARDLE, of whom every information can be obtained.

N.B. The stone used in the erection of the New Houses of Parliament was supplied EXCLUSIVELY from these quarries.

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PURBECK MARBLE, of the same kind as the column and ornamental work of the Temple Church, London, are composed, can be had of Mr. JAMES VOSS, Woodyhide, Corfe Castle.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico.

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ALTAR TABLETS Illuminated.

First-rate ARTISTS retained for SCULPTURED GOTHIC CARVINGS.

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PORTLAND CEMENT, as manufactured by J. B. WHITE and SONS, possesses all the properties of the best Roman Cement, but has the advantage over that material of wholly resisting frost. When used as a stucco it does not vegetate or turn green in damp situations, and requires no colouring. Employed as an hydraulic mortar for brickwork, it carries four to five measures of sand to one of cement, and is proved by trial to become harder and stronger in these proportions than Roman Cement with but one measure of sand. This superior connecting power, combined with its eminently hydraulic properties, point it out as the fittest material for building sea and embankment walls, the lining of reservoirs, cisterns, and baths, and for all those purposes where strength and a perfect resistance to water are required.

Manufacturers—J. B. WHITE and SONS, Millbank-street, Westminster, and 36, Seel-street, Liverpool.

PORTLAND CEMENT, solely MANUFACTURED by WILLIAM ASPDIN, Son of the Patentee.—Messrs. ROBINS, ASPDIN, and Co. request reference to No. 296, page 491; and also Nos. 284 and 285, pages 343 and 351 of "The Builder," for accounts of EXPERIMENTS on the strength of Portland Cements, whereby the great superiority of their Cement is manifest. This Cement has been proved for upwards of twenty years in the Thames Tunnel to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement; it does not vegetate, oxydate, or turn green; nor is it affected by any atmospheric influence whatever the climate, resisting alike the action of frost and heat. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable the Proprietors challenge competition.—Orders received by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall; also at their Depôt, 46, Hanover-street, Liverpool.

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And can be delivered by the Proprietor's own boats to any part of the kingdom.

MARTIN'S PATENT FIRE-PROOF AND ORNAMENTAL CEMENT, APPLICABLE FOR ALL INTERNAL PURPOSES WHERE PLASTERING IS REQUIRED.

This invaluable Cement has now been before the public so many years, and obtained so high a standing in the estimation of all who have used it, that it is unnecessary to comment on its merits. Messrs. STEVENS and SON however feel called upon to observe, that from the greater extent of surface which a given quantity of MARTIN'S will cover, as compared with other Cements for internal use, there will be found a gain of 16½ per cent. in material, full 7 per cent. less in price, with an additional saving in labour of 10 per cent., by its allowing about forty minutes for working, being less than one-tenth of the time of other cements of a similar nature, therefore worked with greater facility, making together the enormous saving of full THIRTY-THREE PER CENT.; its advantages therefore cannot admit of doubt.

Specimens, showing its beauty, hardness, and applicability to all plain and ornamental purposes, may be seen; and the Cement, in any quantity, obtained of Messrs. STEVENS and SON, at their Plaster and Cement Works, 186, Drury-lane, London.—Manufactory, Derwent Mill, Derby.

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(Signed) JNO. WALLEN, Architect, London.

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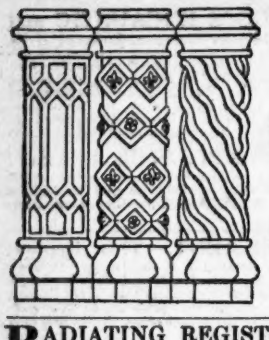

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Call the particular attention of Architects, Builders, and others, to their patent process of galvanizing, or coating iron with PURE ZINC, which, from its action being chemically true, effectually and PERMANENTLY prevents RUST. The process is applicable to all sorts of iron work (whether cast or wrought) in use for building purposes—such as ROOFS, gutters, girders, floors, WATER or GAS PIPES, railings, window sashes and guards, blinds, skylight frames, chimney cowls, cisterns, screws, nails, locks, keys, chains, wire guards, &c., &c., &c. The Company undertake to supply GALVANIZED IRON, or to GALVANIZE every description of iron work, in any quantity required.—Particulars and prices at the Offices of the Company, 3, Mansion-house-place. London Galvanizing Works, Millwall, Poplar. S. VINCENT, Secretary.

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Of the Corrugated Iron Beams, Girders, and Fire-proof Floors; MANUFACTURER OF IRON ROOFS AND BUILDINGS, Chiefly of

THE PATENT GALVANIZED IRON.

This material has been employed by J. H. PORTER for several years past in the construction of Iron Roofing for RAILWAY STATIONS and DOCKYARDS, at home and abroad; FARM BUILDINGS, FACTORIES, GASWORKS, WAREHOUSES, &c.; SUGAR-HOUSES, MEGASS and COFFEE-SHEDS, STORES, DWELLINGS, and MARKET-PLACES, in the East and West Indies, China, at the Cape of Good Hope, and in other parts of the world; Iron-bar and Strained-wire Fences, Sheep and Cattle Hurdles.

A. WHYTOCK, 494, New Oxford-street, London, begs most respectfully to inform Builders and the public, that he has removed to the premises as above, where he has on sale a complete variety of BATHS, all manufactured of Morewood and Rogers's Patent Galvanized Tinned Iron. The accompanying sketch represents a Plunging, a Shower, and Springing Bath combined, which A. W. has secured by registration.

It costs no more than the old-fashioned Shower Bath, while from its simplicity it is free from liability of getting out of order.

A. W. continues to supply

PLAIN AND CORRUGATED ROOFING;

and Houses made of the Patent Metal, or

CALIFORNIA AND THE COLONIES.

WORKS, 8, QUICK-SET-ROW, NEW-ROAD.

HOT-WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency.

BENJAMIN FOWLER, late of 63, Dorset-street, removed to the new factory, Whitefriars-street, Fleet-street.

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 2½d. per inch. Registers as usual.

3-feet Cottage Ranges, with Oven and Back-Boiler, 35s. each.
3-feet self-acting ditto ditto, 36s. each.
The best self-acting Ranges as usual.

Air Bricks, 3s. 6d. per doz. Sash weights, 5s. per cwt.

Best Patent Cut Clasp.

4½d.	5d.	7d.	10d.	1s. 2d.	1s. 8d. per 1,000
3d.	4d.	6d.	8d.	10d.	20d.

Best Sheet Floor Brads, 12s. per cwt.
Best Town Glue 38s. Do. Scotch, 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s.	4s. 6d.	5s. 6d.	7s.	8s.	10s. 6d. per gross.

At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 35, Chiswell-street, Finsbury-square.

Lists of Prices had on application at the Warehouse, or by letter pre-paid, inclosing postage stamp.—Warehouse closes at 7 o'clock.

TO ARCHITECTS, BUILDERS, &c.

HAYWARD, BROTHERS, late R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen Ranges, with Back Boiler and Oven and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3.	£3. 10s.	£3. 15s.	£4.	£4. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5.	£5. 15s.	£6. 5s.	£6. 10s.	£7.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

TO BUILDERS, CABINET-MAKERS, and OTHERS.—Best Cut Sheet Flooring Brads, 12s per cwt.

Fine Cut Clasp and Rose.

15s.	14s. 6d.	14s.	13s.	13s. per cwt.
1½	1¼	2	2½	3 inch.

Cross Garnet Hinges, per dozen pair.

2s. 9d.	3s. 3d.	4s. 3d.	5s.	6s.	8s.
10	12	14	16	18	20 in.

Best Bright Tower Bolts, per doz.

1s. 3d.	1s 7d.	2s.	2s. 6d.	2s. 10d.	3s. 3d.	3s. 7d.
3	4	5	6	7	8	9 in.

Iron Rain-water Pipe.

9½d.	10½d.	1s. 1d.	1s. 5d.	1s. 8d. per yard.
2	2½	3	3½	4 inch.

Best London Glue, 38s. per cwt.
Cast Lath Nails, 10s. per cwt.
Air Bricks, 3s. 6d. per doz.
Hooping for bond, 8l. 10s. per ton.
Sash Weights, 5s. per cwt.
TERMS—NET CASH.

A. L. PFEIL and Co.,
Wholesale Ironmongers, Brass Foundry and Nail Warehouse,
5 and 6, Broad-street, Bloomsbury, London.
AGENTS FOR LEA'S PATENT MORTISE LOCKS AND BOLTS.

TO BUILDERS AND CARPENTERS.

J. H. BOOBBYER and CO., late Sturch and Boobbyer, at their Ironmongery, Brass Foundry, and Nail Warehouse, No. 14, Stanhope-street, Clare-market, London, for the supply of Carpenters, Builders, Cabinet-makers, Upholders, &c., at wholesale prices.

Best Cut Sheet Flooring Brads, 12s. per cwt.
Fine Cut Clasp and Rose.

15s.	14s. 6d.	14s.	13s.	13s. per cwt.
1½	1¼	2	2½	3 inch.

Best Bright Tower Bolts.

1s. 3d.	1s. 7d.	2s. 2d.	2s. 6d. per dozen.
3	4	5	6 inch.

Best Patent Sash Line.

4s.	4s. 6d.	6s.	7s. 3d.	9s.	10s. 9d. per gross.
No. 1	2	3	4	5	6

Cast Lath Nails, 10s. per cwt. Sash Weights, 5s. per cwt.
Air Bricks, 3s. 6d. per dozen.

DR. ARNOTT'S VENTILATORS.

11 by 8 inches ..... 5s. each.
16 by 9 ,, ... 8s. ,,

An assortment in Brass, Bronzed, Gilt, &c.

An extensive stock of Mortise Locks, Drawback Locks, Iron Rim Locks, and Latches, of every description, at very reduced prices; also Door Furniture, in china, amber, crystal, ivory, ebony, buffalo, horn, brass, &c., with Finger-plates, Bell-pulls and Levers *en suite*.

Agents for LEA'S PATENT MORTISE LOCKS and BOLTS, and inventors of SHIFTING BOLT MORTISE LOCKS &c.

FULKES' IRONMONGERY and STOVE WAREHOUSE, 91 and 92, Park-street, Camden Town.

Elliptic Stoves, with double backs ..... 2½d. per inch.
Register ditto, ditto ..... 5d. per inch.
3 feet S. A. Ranges ..... 35s. each.
Iron Rain-water pipe ..... 2½ inch, 10d.; 3 inch, 1s. 1d. per yard.
4 inch ½-rd. Guttering ..... 9d. per yard.
4½ inch O G Guttering ..... 1s. per yard.
6 inch Rim Locks, with patent spindles ..... 15s. per dozen.
Mortice Locks, with patent spindles ..... 30s. per dozen.

CLARK'S IRONMONGERY, STOVE, RANGE, and METAL WAREHOUSE, 159, Shoreditch.

Strong Elliptic Stoves, with extra back, 2½d per inch. Register Stoves, 5d. per inch.

Three-feet Self-acting Cottage Ranges, 36s. each. Best Self-acting with Wrought Bars and Bright Fittings, 58s. each.

Cast Rain-water Pipe.

9d.	11d.	1s. 1d. per yard.
3	2½	3 inch.

Gutters, 4 inch, 9d. per yard.

Best Cut Clasp and Rose.

15s.	14s. 6d.	14s.	13s.	12s. 6d. cwt.
1½	1¼	2	2½	3 inch.

Sheet Flooring Brads, 11s. 9d. per cwt.
1-inch Cut Lath, 14s. per cwt. Cast Lath, 9s. 6d. per cwt.
6-inch 2-bolts Rim Locks, with Scotch Springs, best furniture, patent spindles, 15s. a-dozen.
6-inch 3-bolts Ward Round Mortise, with best furniture and patent spindles, 2s. 9d. each.
Improved Bow Latches, with best furniture, 7s. a-dozen.

P.S.—A List of Locks, Bolts, and other Ironmongery, on application.

TO BUILDERS, CARPENTERS, &c.—The undermentioned are the PRESENT PRICES of IRONMONGERY, at YOUNG'S, 194, Oxford-street. Every other article equally low. Orders executed upon receipt of remittance or a respectable London reference.

	2	2½	3 Inches.	
Cast Butts	5s. 3d.	7s. 6d.	11s.	per 6 dozens.
Cut Clasp	5d.	7d.	1s. 3d.	1s. 9d. per 1,000.
	4d.	6d.	10d.	20d.
Nos.	3	4	5	6
Patent Line	6s.	7s. 3d.	9s.	10s. 9d. per gross
	2	2½	3 Inches.	
Rain Pipe	9½d.	10½d.	1s. 1d.	per yard.

PROTECTION from FIRE, and GREAT ECONOMY in BUILDING.—A pamphlet, descriptive of the method by which both these important objects are secured, may be obtained on application to Messrs. FOX and BARRETT, 46, Leicester-square.

IRON SASH ROOFS for CONSERVATORIES, &c. Verandahs, cast or wrought Staircases, light or heavy Railing, Gates, strained Wire-fences, Hurdles, iron Bedsteads; also every description of cast or wrought-iron work for building purposes, corrugated and galvanized iron Roofing, &c., on the most equitable terms, by J. BULLOCH and CO., Hope Iron Works, Primrose-street, Bishopsgate.—Buildings heated by hot water.

PATENT WROUGHT NAILS.—These Nails are submitted to the notice of Builders, Contractors, and Ship-builders, as being superior to any others, and cheaper. They have the toughness of the best hand-made nails, with far greater uniformity of make. The flat pointed rose nails are particularly recommended wherever oak or other hard wood is used: being perfectly chisel-pointed, they require no boring, and will drive into the hardest wood without splitting it, and their heads being very strong do not fly off. The patent wrought nails may be had of all ironmongers, and an ample stock of them is kept at the warehouses of the agents, HIGGS and GEORGE, Wholesale Ironmongers, 179, Borough, London.

IRON FOUNDRY, 80, Goswell-street (late of Brick-lane, St. Luke's).—J. J. JONES having made great additions to his STOCK of PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKER'S OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

TO GAS AND WATER COMPANIES, ENGINEERS, AND CONTRACTORS.

ANDREW M'LAREN & Co., Ironfounders, STEEL YARD WHARF, UPPER THAMES-STREET, have always on hand a large STOCK of SOCKET PIPES of all sizes, with the usual connections. Retorts, columns, girders, and all description of castings contracted for.

Their stock of goods for GENERAL IRONMONGERS is unequalled for variety and lowness of price: comprising, range, register, and elliptic metal and stoves, rain-water pipes, O. G., and half-round guttering, sash-weights, railing bars, panels, bakers' oven work, sink traps, air bricks, water-closet metal, &c. &c.

Printed list of prices, and books of drawings for the use of ironmongers, forwarded on application.

WINDOW SASH LINE.—R. S. NEWALL and Co.'s PATENT COPPER WIRE CORD is now extensively used for window sash line, hothouses, &c., it being cheaper, more durable, and one-sixth part the bulk of hempen rope. Copper Wire Rope, Lightning Conductors, Gilt and Plated Cord for hanging pictures, Wire Strand Fencing.—Office. 130, Strand, London; Warehouse, Brunswick-street, Blackwall; Manufactory, Gateshead-on-Tyne.

TO BUILDERS AND OTHERS.

HART and SONS, Wholesale and Manufacturing Ironmongers, Nos. 53, 54, and 55, Wych-street, Strand. Established 1819. Proprietors and sole Manufacturers of PITT'S PATENT SELF-ADJUSTING DOOR FURNITURE and SPINDLES, and Manufacturers of Dr. ARNOTT'S VENTILATING CHIMNEY VALVES.

HART and SONS solicit the attention of Builders, House Decorators, Smiths, Bell-hangers, &c. &c. to their extensive and well selected stock of DOOR FURNITURE in every suitable material, *en suite* with finger-plates, bell-pulls, levers, &c., and also to their LOCKS and LATCHES in mortice, rim, drawback, iron gate, cabinet, &c., of all qualities, including Barron's, Bramah's, Chubb's, and Pitt's Patent.—To their GENERAL IRONMONGERY, wrought and cut nails, screws hinges, bolts, &c. &c.

BRASS FOUNDRY—Bell cranks of all descriptions, cornice poles, picture rods, skew door handles, desk and hat rails, window guards, Espagniolette bolts, &c. &c.

DOOR SPRINGS and HINGES, including Redmund's, Smith's, Gerish's, and Cotterell's patents.

WINDOW BLIND FITTINGS of the most approved principle.

LEA'S RACK BOLT MORTICE LOCKS, for which they are AGENTS, as well as for all inventions of merit as soon as perfected.

HART and SONS, aware that the practice of publishing NET price-lists is injurious to the interests of the trade generally, are unwilling to follow it, but at the same time they beg to assure their friends that their prices shall be equally as low as those of any other respectable house.

GUTTA PERCHA PAPER.—The known quality of Gutta Percha for resisting damp, makes it preferable to every other vegetable substance as a lining for damp walls. The superior manner in which the two sheets of paper are united with the Gutta Percha, renders this article easy of application to the wall, and complete in its effects when there.

To be had only at JEFFREY and ALLEN'S Paperhanging Factory, Whitechapel High-street.

JEFFREY and ALLEN continue to supply the Trade with block and machine-made paperhangings, combining elegance of design with good workmanship and low prices.

PAPER-HANGINGS at E. T. ARCHER'S Manufactary for English, and Warehouse for English and French Paper-hangings, and all materials connected with the trade. The Panelled Decorations are fitted up on the walls of an extensive range of show-rooms, giving at one view a drawing or dining-room furnished fit for occupation.

LIST OF PRESENT PRICES.

Painted marble, granite, and oak papers	1d. per yard.
Superior bed-room papers	1d. ,,
Satin ground papers for bed-rooms, drawing and dining rooms	3d. ,,
Flock papers on grounds, and crimson flock on oak	4d. ,,
Bronze drawing-room papers	9d. ,,
Rich gold paper	1s. 6d. ,,
Ditto and Flock	2s. 0d. ,,

10,000 feet of gilt mouldings always in stock.

E. T. ARCHER, 481, OXFORD-STREET, LONDON.
January, 1, 1850.

HORNE'S INDIA-RUBBER PAPER for DAMP WALLS is the cheapest and best hitherto offered to the trade, the price being 2s. 6d. per piece of twelve yards, and its being entirely free from the unpleasant odour arising from gutta percha and pitch papers, and considerably lower in price, is an important desideratum in its favour.—ROBERT HORNE, PAPER-HANGING MANUFACTURER, 41, Gracechurch-street, City, at the same time invites builders and the trade to inspect his extensive stock of NEW DESIGNS IN PAPER-HANGINGS, which, by the aid of powerful machinery, he is enabled to offer at the following unprecedented prices, in stock quantities, for cash only, viz.:—

Stout lining paper		4½d
Superior ditto	6d. and	7d.
Bed-room papers, in great variety	at	5d.
An excellent oak paper	at	9d.
Sitting-room ditto, on blended grounds	7d. to	9d.
Hand-made marbles	1s. 0d. to	1s. 6d.
Good satin papers	1s. 9d. to	2s. 0d.
Rich flock papers (by a new process) ..	2s. 0d. to	2s. 6d.
Hand-made granites	10d. to	1s. 0d.

Every novelty in French and English panelled decoration always on hand; also excellent imitation of fancy woods, superior to any hitherto manufactured on paper.

N.B. Patterns sent into the country, showing the style and quality of the above, on receipt of two postage stamps, and the goods despatched with promptitude on receipt of a remittance to the amount of the order given.—Folding screens in great variety, wholesale and retail.—To be obtained only at HORNE'S Wholesale and Retail Establishment, 41, Gracechurch-street, London-bridge.